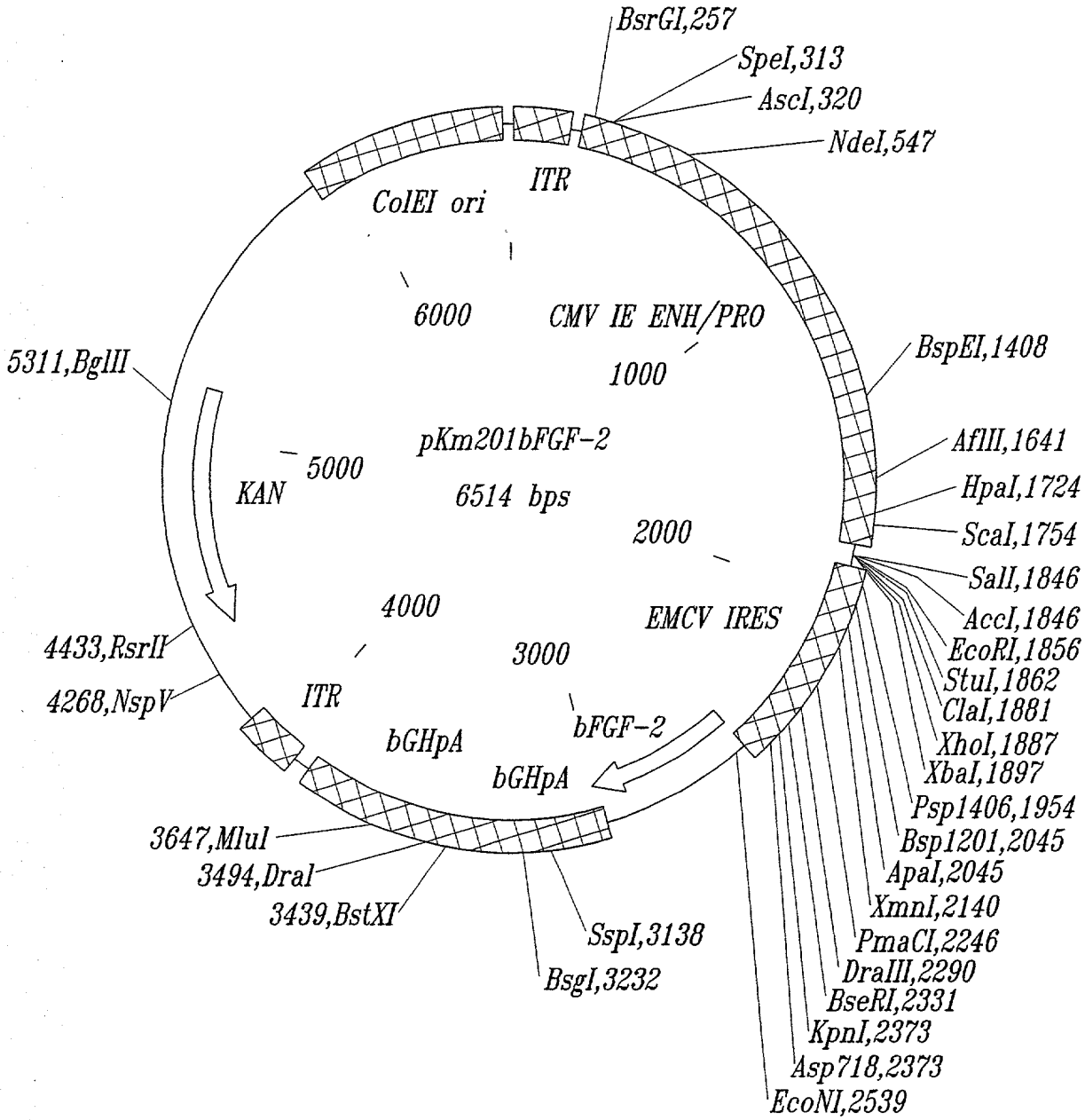
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SpeI,313
AscI,320
NdeI,547
ITR
ColEI ori
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CMV IE ENH/PRO
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BspEI,1408
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pKm201bFGF-2
6514 bps
AflII,1641
5000
KAN
HpaI,1724
ScaI,1754
2000
SalI,1846
AccI,1846
4000
EMCV IRES
EcoRI,1856
4433,RsrII
3000
StuI,1862
ClaI,1881
4268,NspV
ITR
bGHpA
bFGF-2
XhoI,1887
XbaI,1897
bGHpA
Psp1406,1954
Bsp1201,2045
3647,MluI
ApaI,2045
3494,DraI
XmnI,2140
3439,BstXI
PmaCI,2246
SspI,3138
DraIII,2290
BsgI,3232
BseRI,2331
KpnI,2373
Asp718,2373
EcoNI,2539

Fig. 1

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Fig. 2A

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Fig. 2B

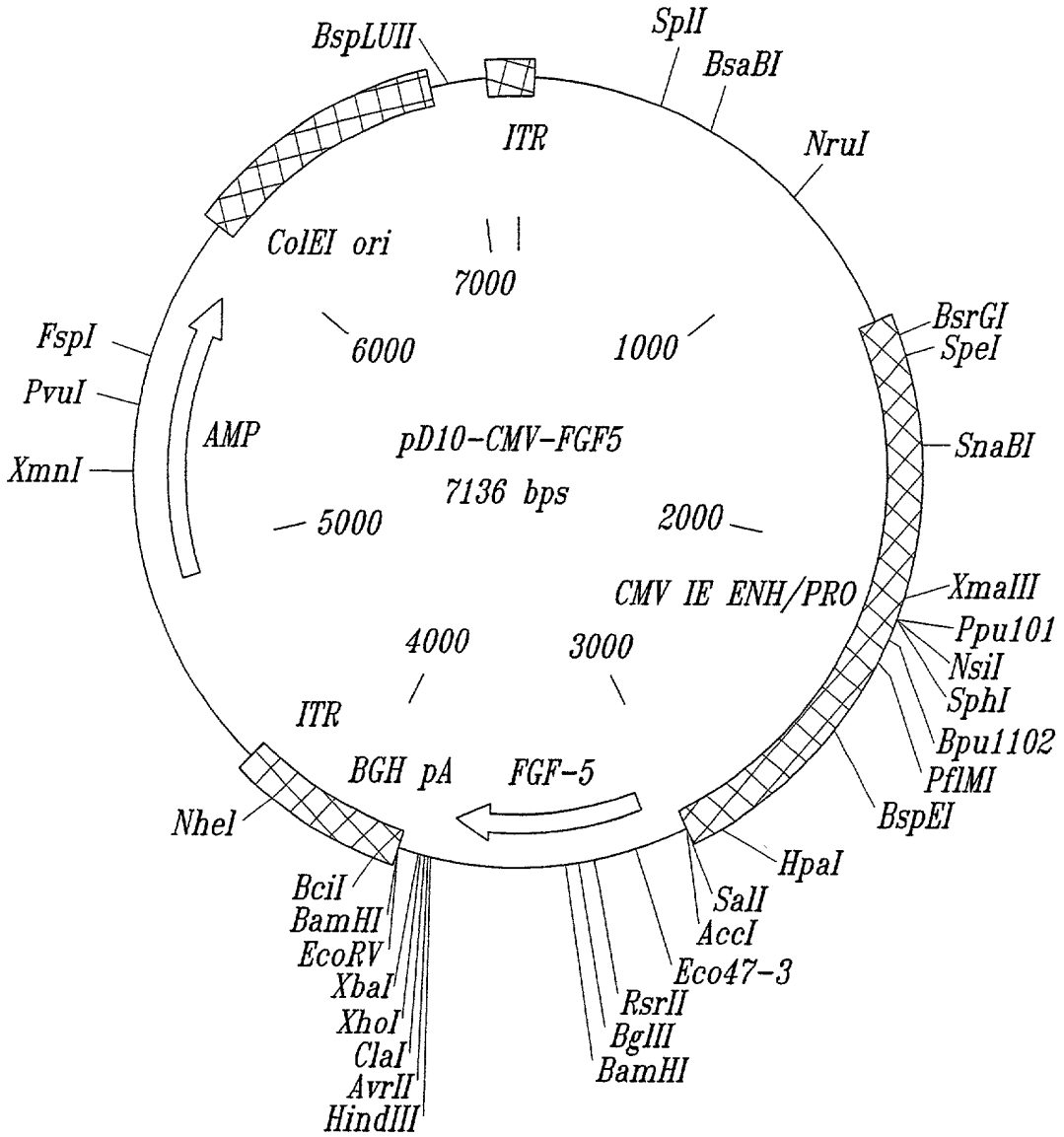


Fig. 3

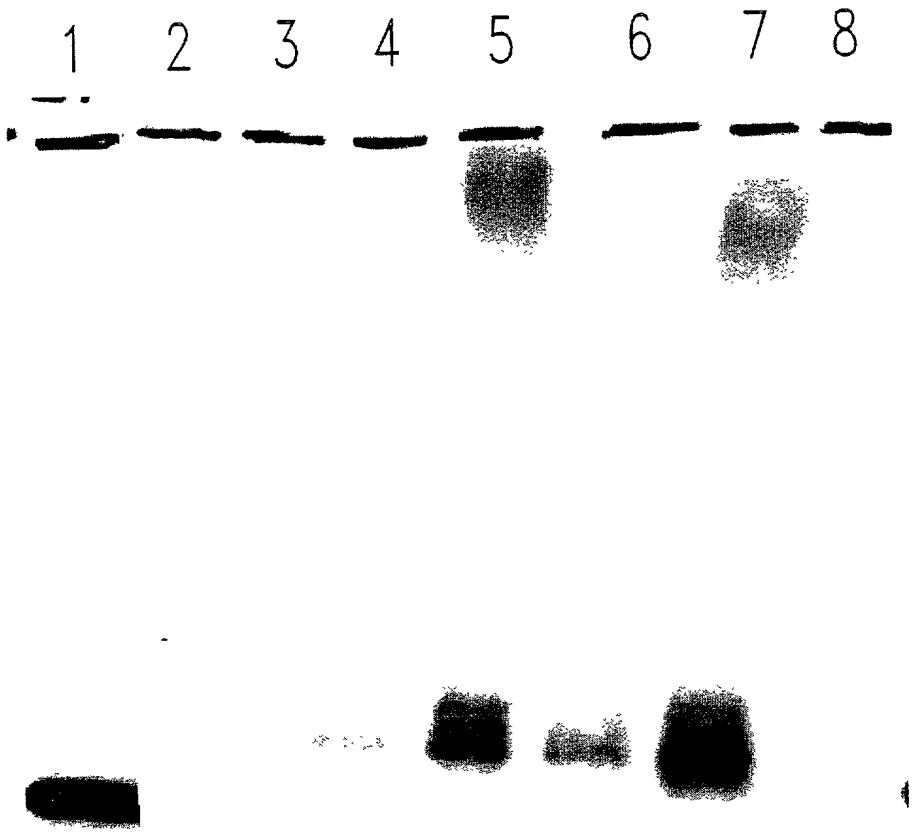
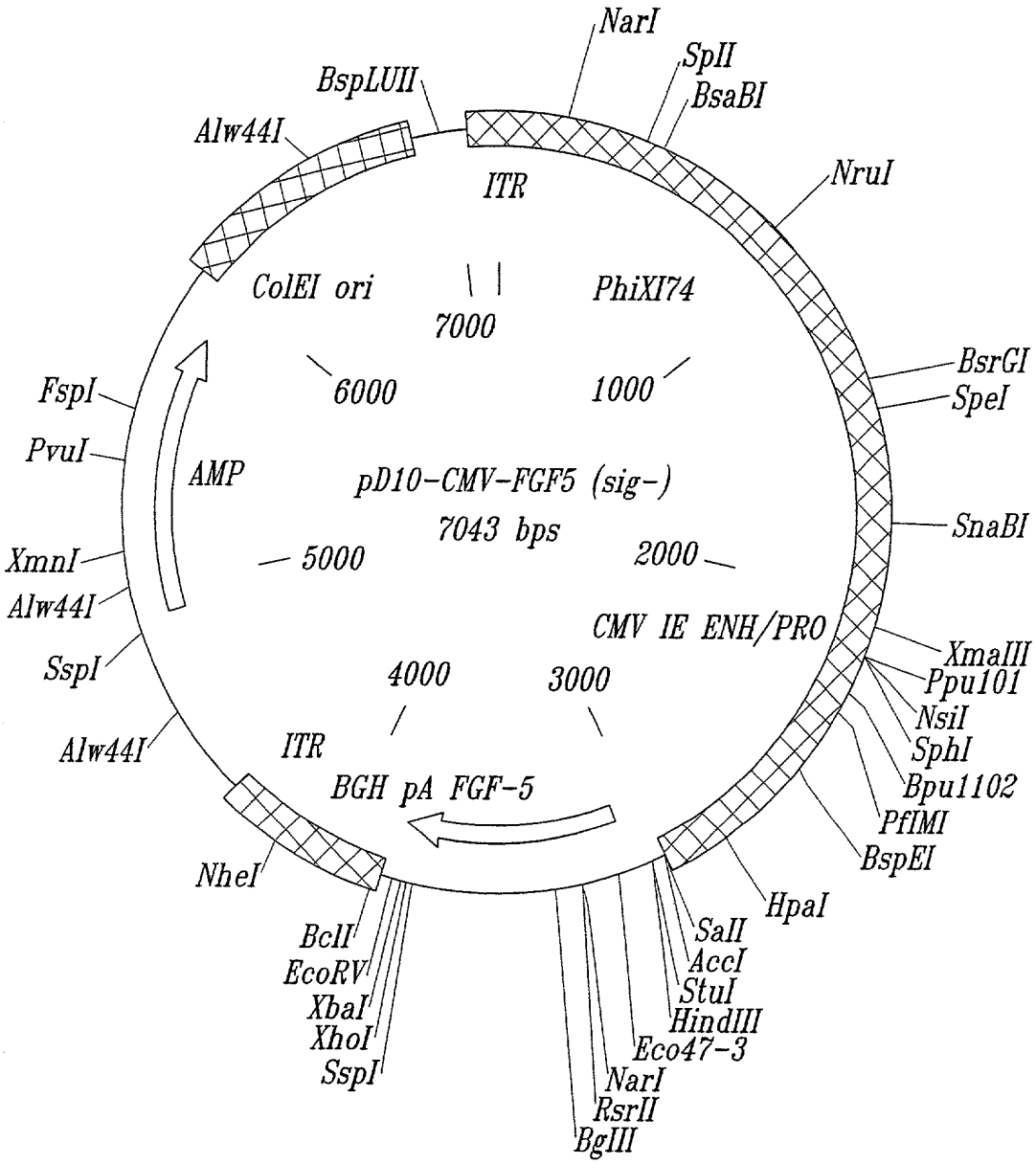


Fig. 4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BsaBI
BspLUII
Alw44I
ITR
NruI
ColEI ori
PhiXI74
7000
6000
1000
BsrGI
SpeI
FspI
PvuI
AMP
pD10-CMV-FGF5 (sig-)
7043 bps
SnaBI
XmnI
5000
2000
Alw44I
CMV IE ENH/PRO
XmaIII
Ppu101
SspI
4000
3000
NsiI
Alw44I
ITR
SphI
BGH pA FGF-5
Bpu1102
PflMI
BspEI
NheI
HpaI
BclI
SalI
EcoRV
AccI
StuI
XbaI
HindIII
XhoI
Eco47-3
SspI
NarI
RsrII
BglII

Fig. 5

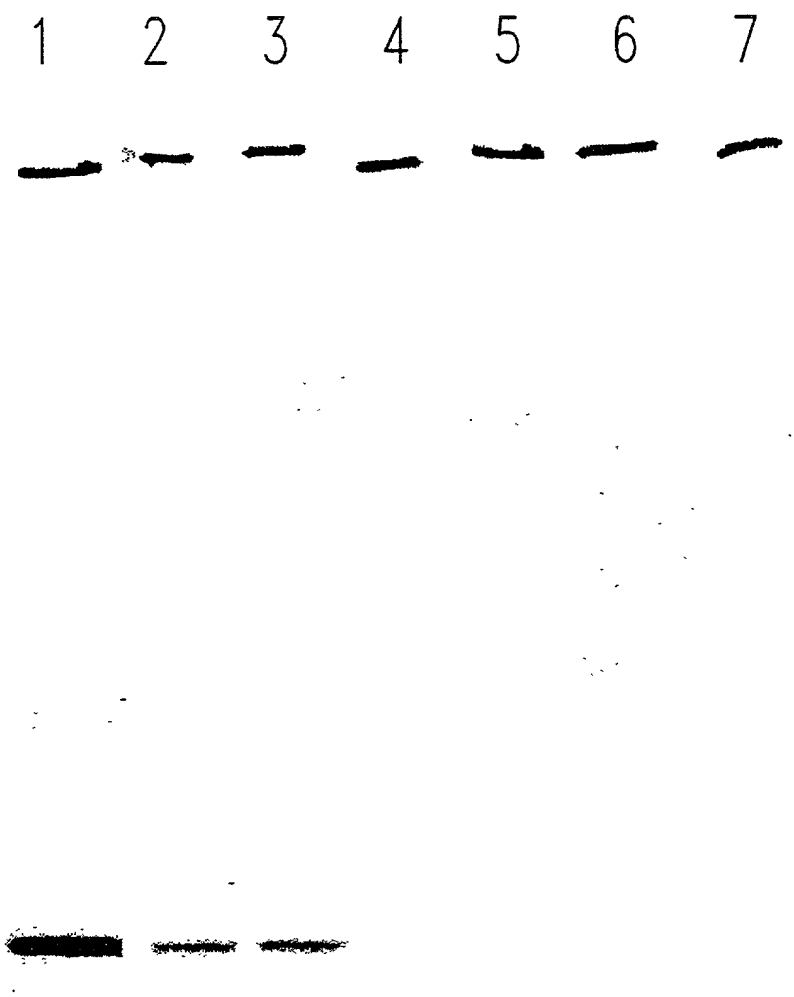
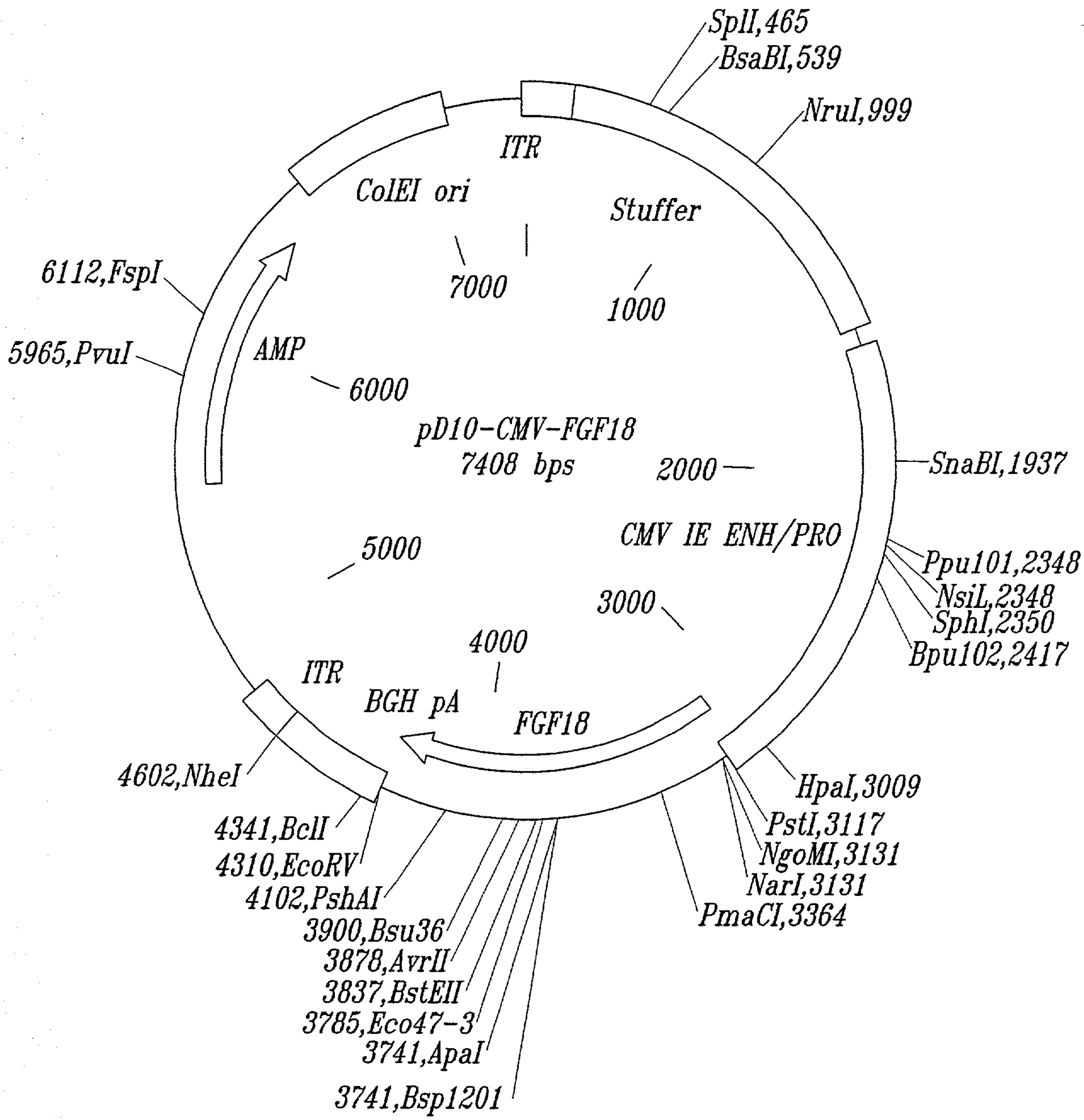


Fig. 6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ITR
ColEI ori
Stuffer
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1000
5965,PvuI
AMP
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pD10-CMV-FGF18
7408 bps
2000
SnaBI,1937
CMV IE ENH/PRO
5000
Ppu101,2348
NsiL,2348
SphI,2350
3000
Bpu102,2417
4000
ITR
BGH pA
FGF18
4602,NheI
HpaI,3009
4341,BclI
PstI,3117
NgoMI,3131
4310,EcoRV
NarI,3131
4102,PshAI
PmaCI,3364
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3878,AvrII
3837,BstEII
3785,Eco47-3
3741,ApaI
3741,Bsp1201

Fig. 7

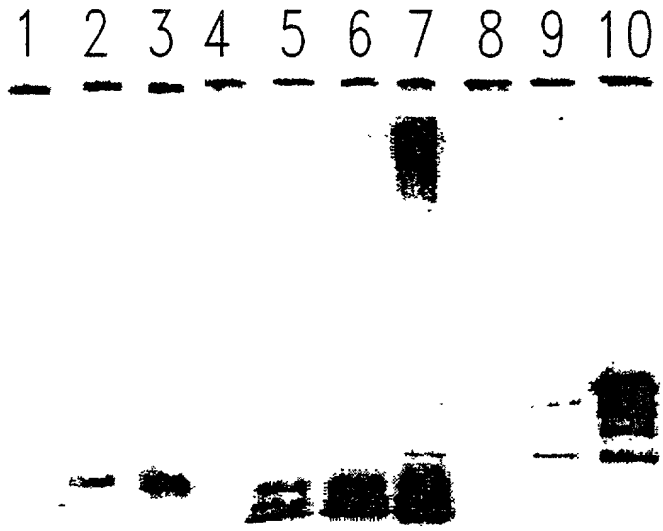


Fig. 8

Fig. 9

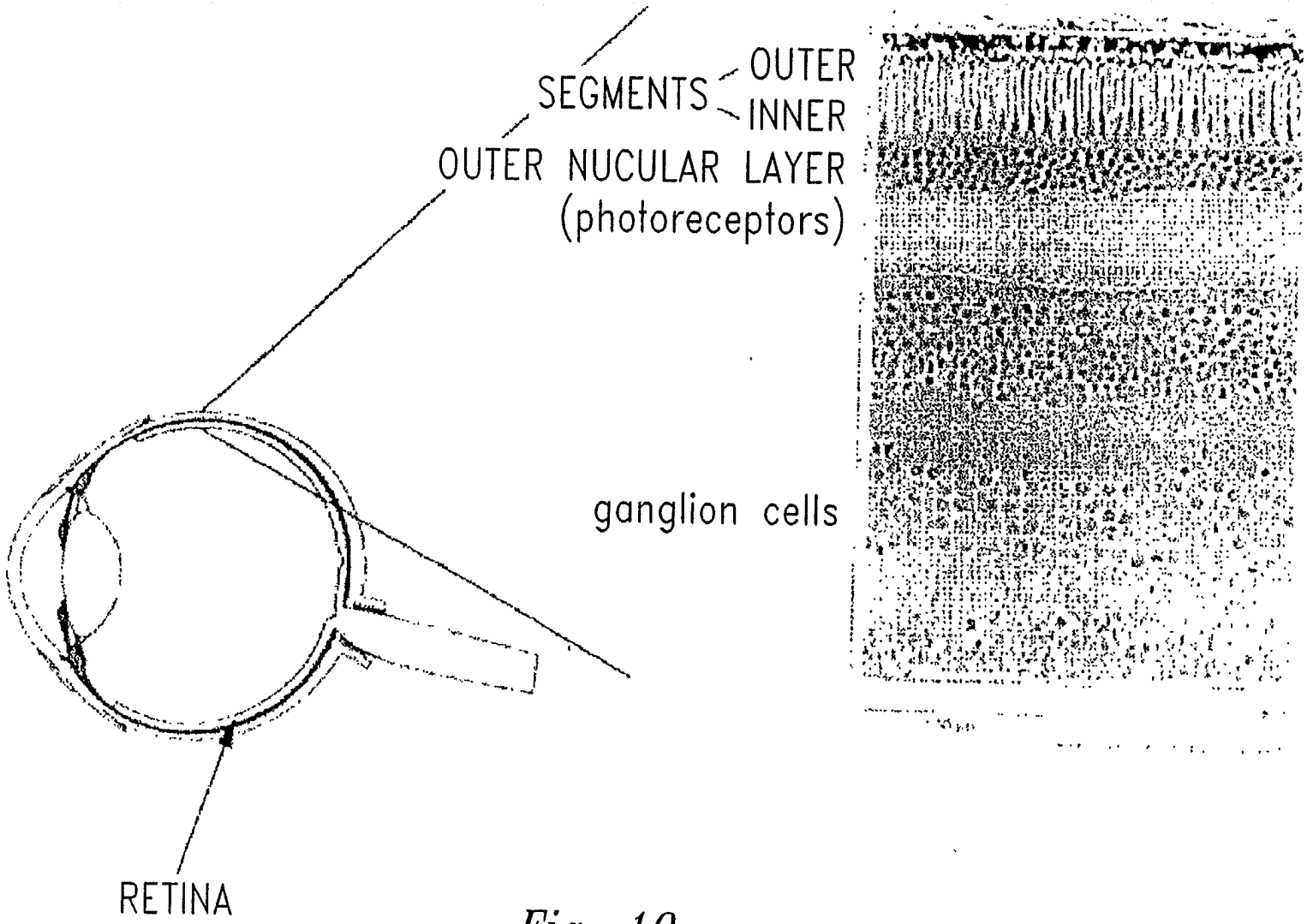


Fig. 10

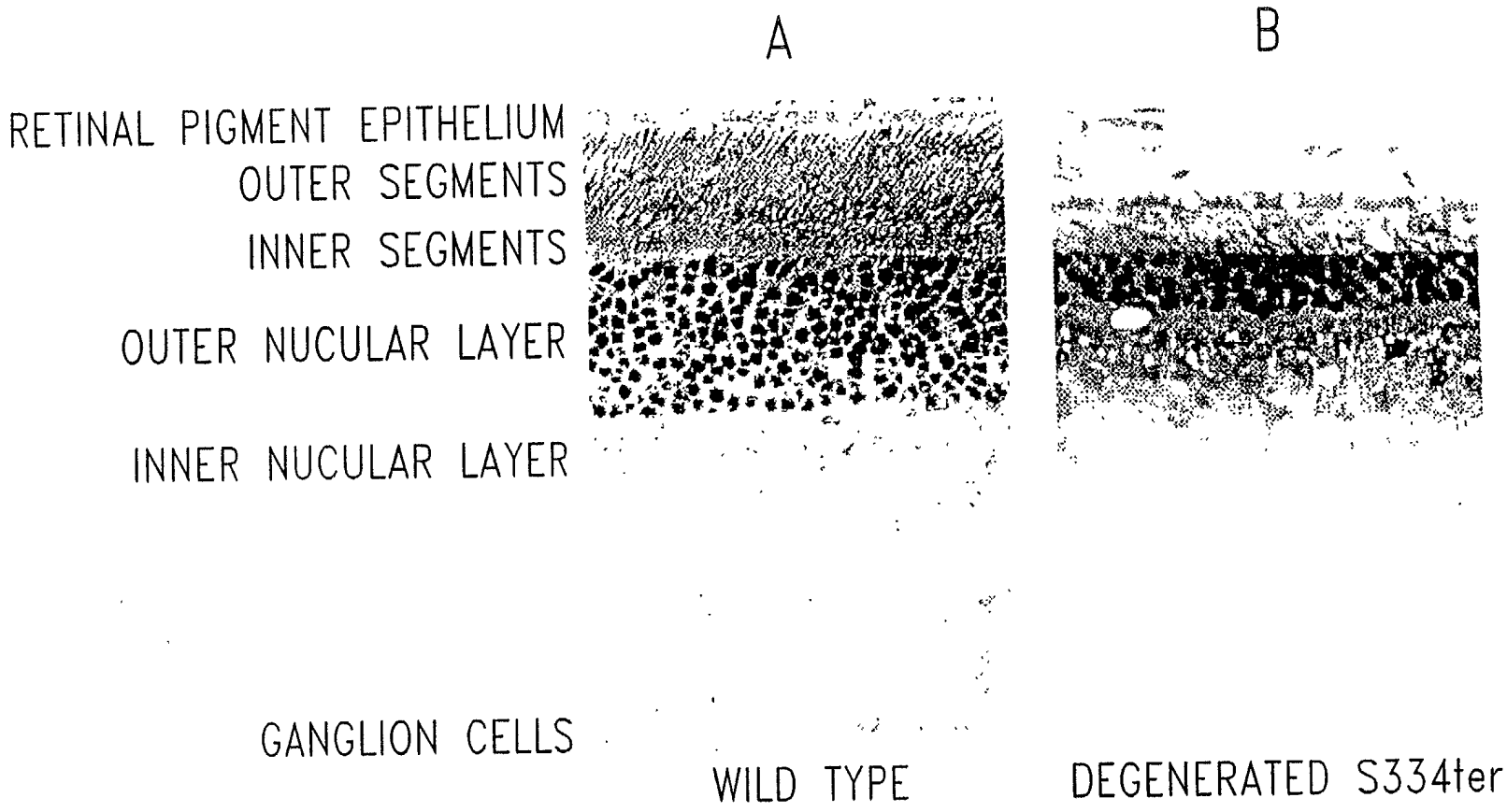


Fig. 11

DEGENERATED S334ter FGF-2 inj S334ter PBS inj S334ter

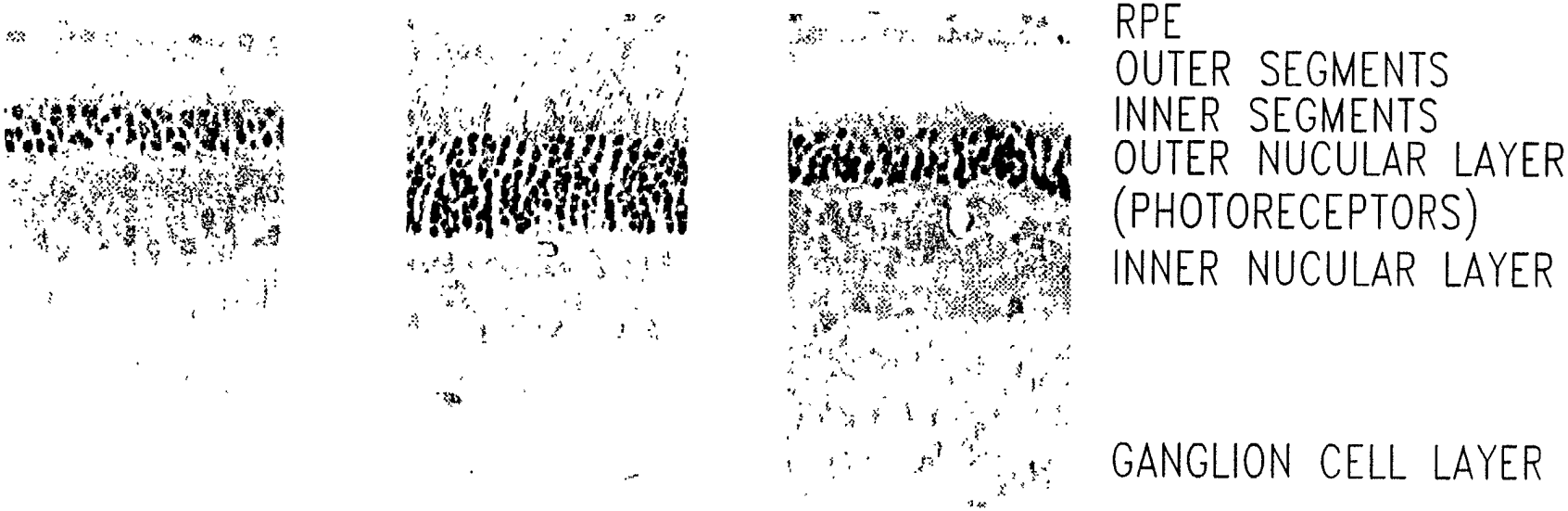


Fig. 12

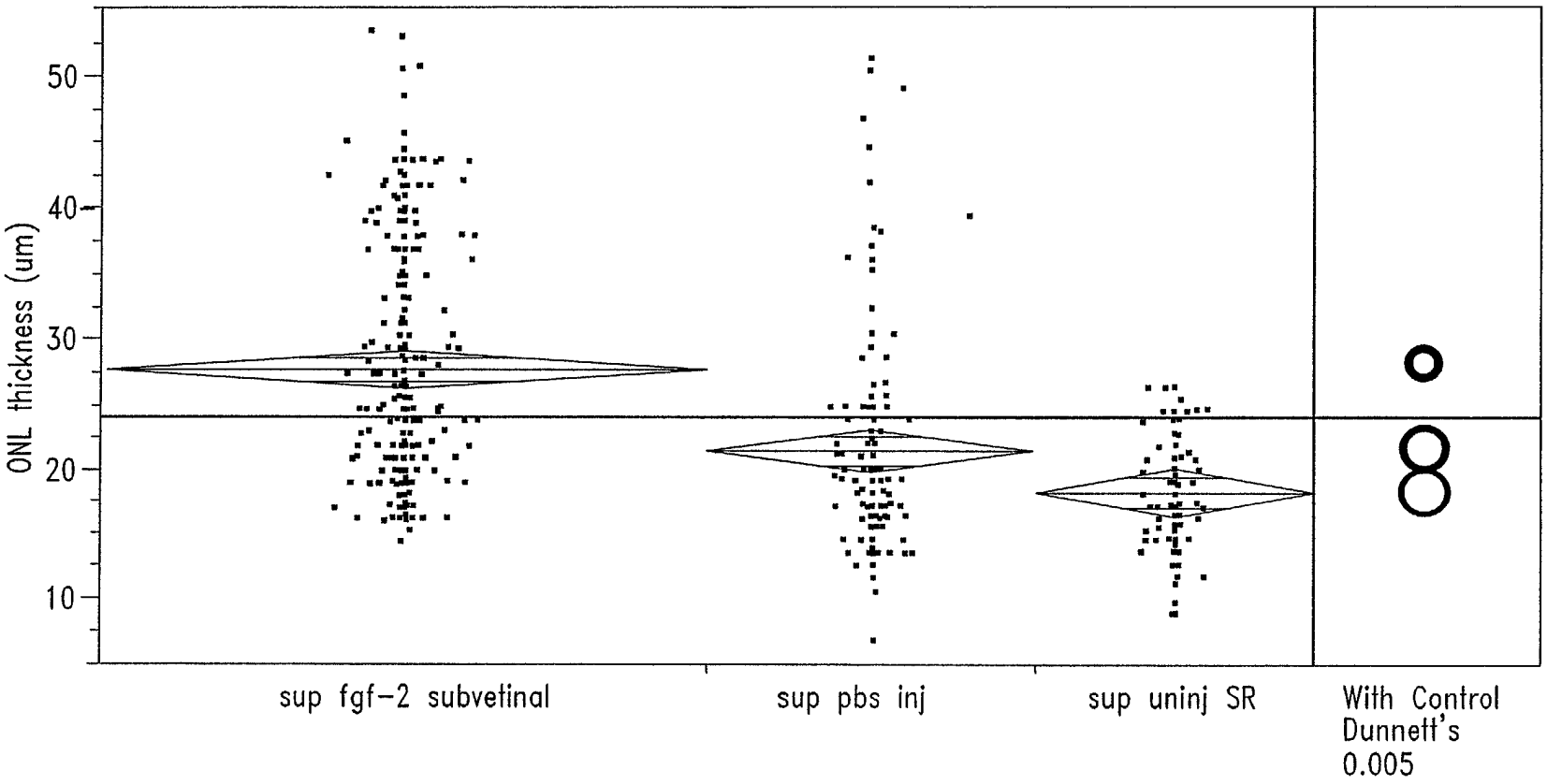

ONL thickness (um)
50
40
30
20
10
sup fgf-2 subvetinal
sup pbs inj
sup uninj SR
With Control
Dunnett's
0.005

Fig. 13

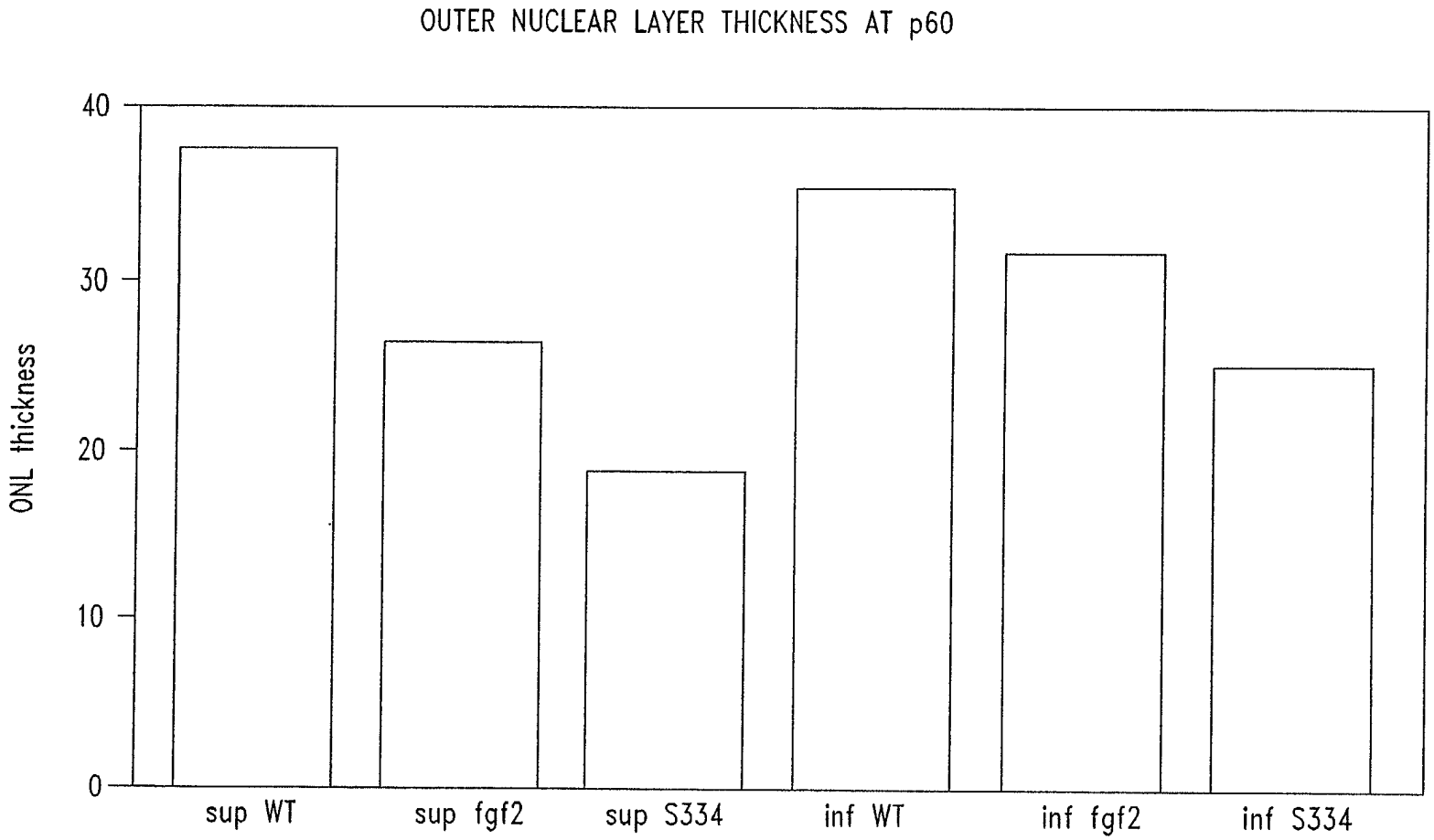
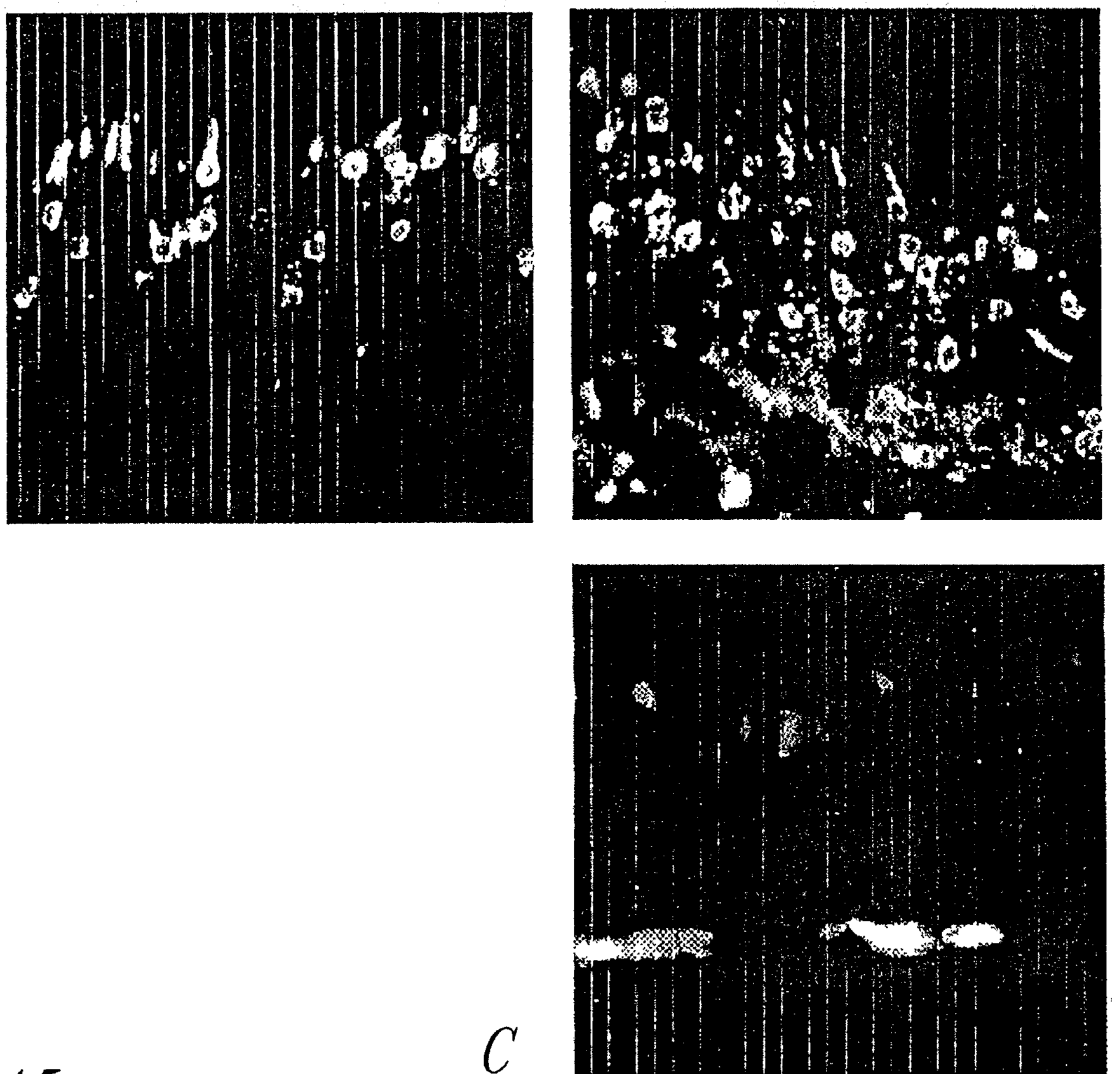

OUTER NUCLEAR LAYER THICKNESS AT p60
ONL thickness
40
30
20
10
0
sup WT
sup fgf2
sup S334
inf WT
inf fgf2
inf S334

Fig. 14



A

B

C

photoreceptors

bipolar cells

ganglion cells

Fig. 15

AAV-LacZ Transduction of Retinal Ganglia

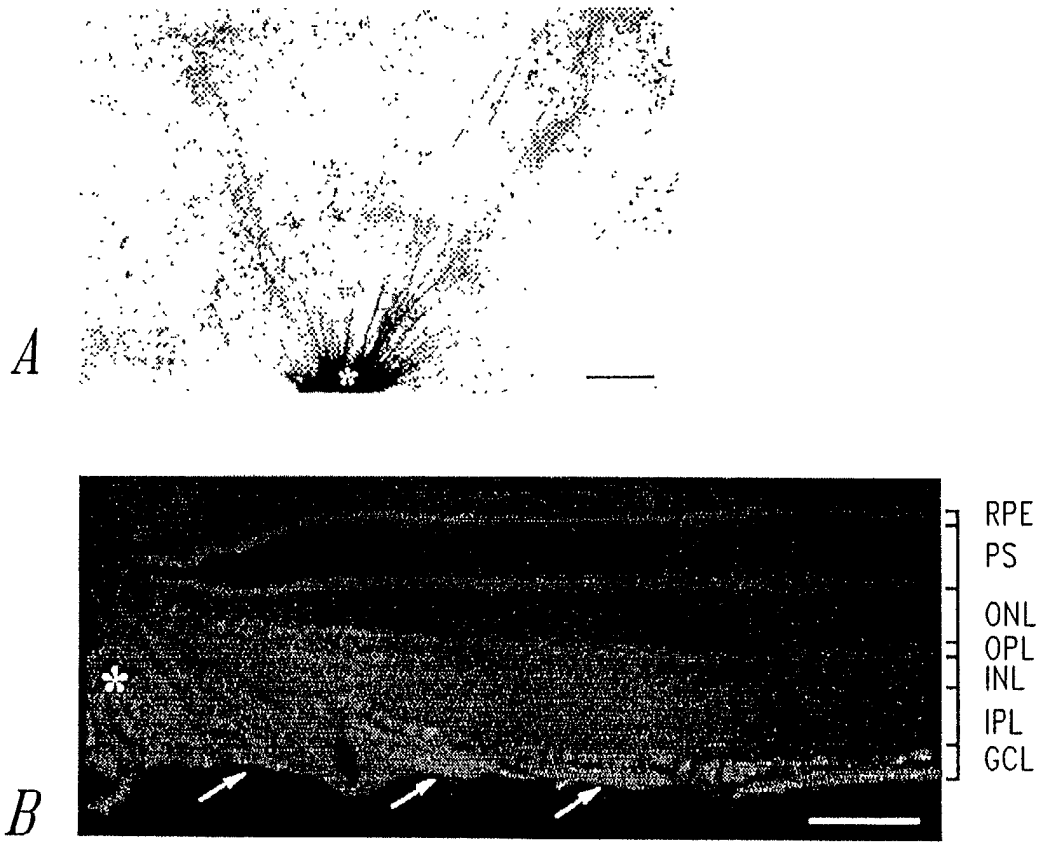


Fig. 16

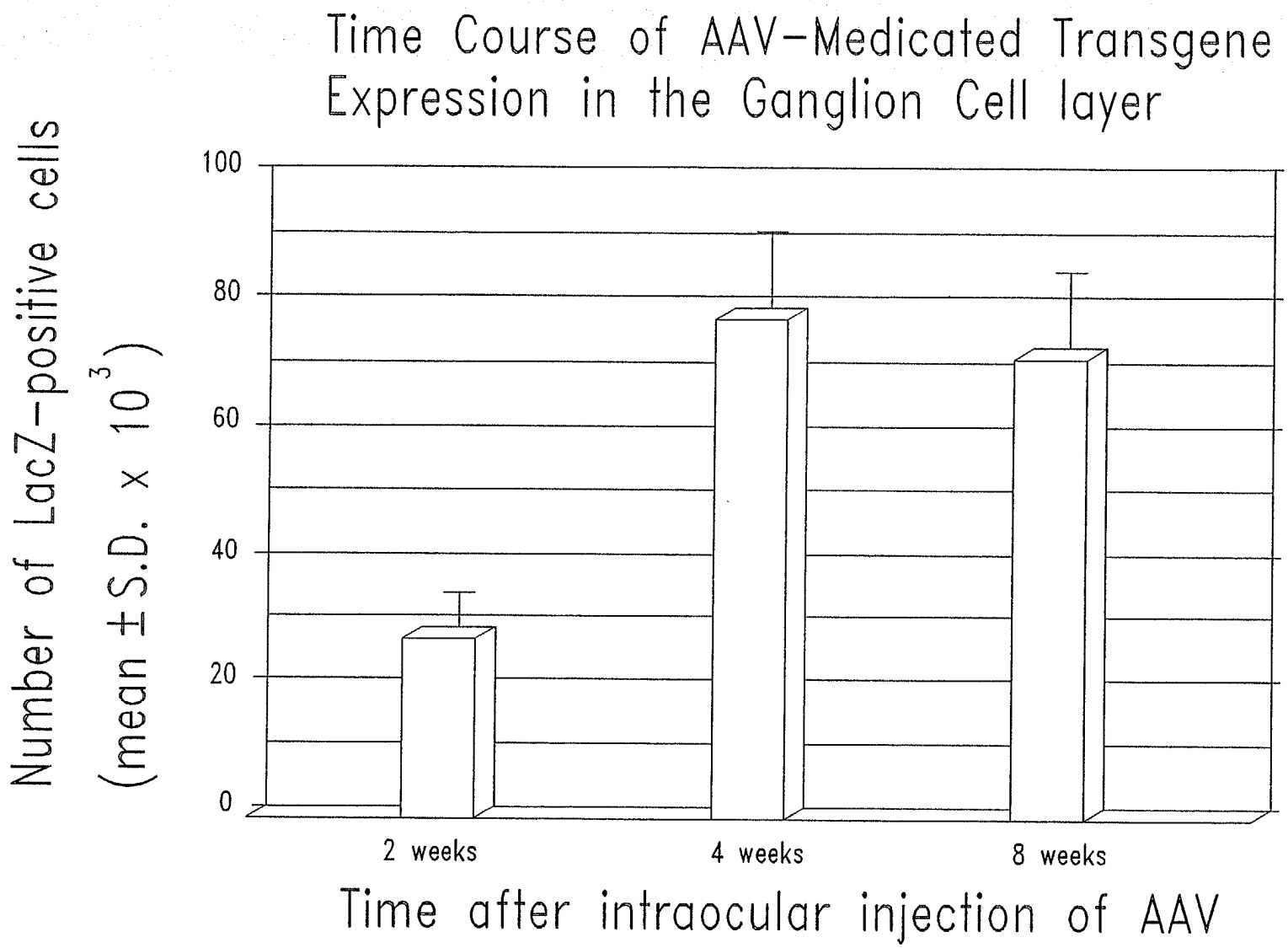
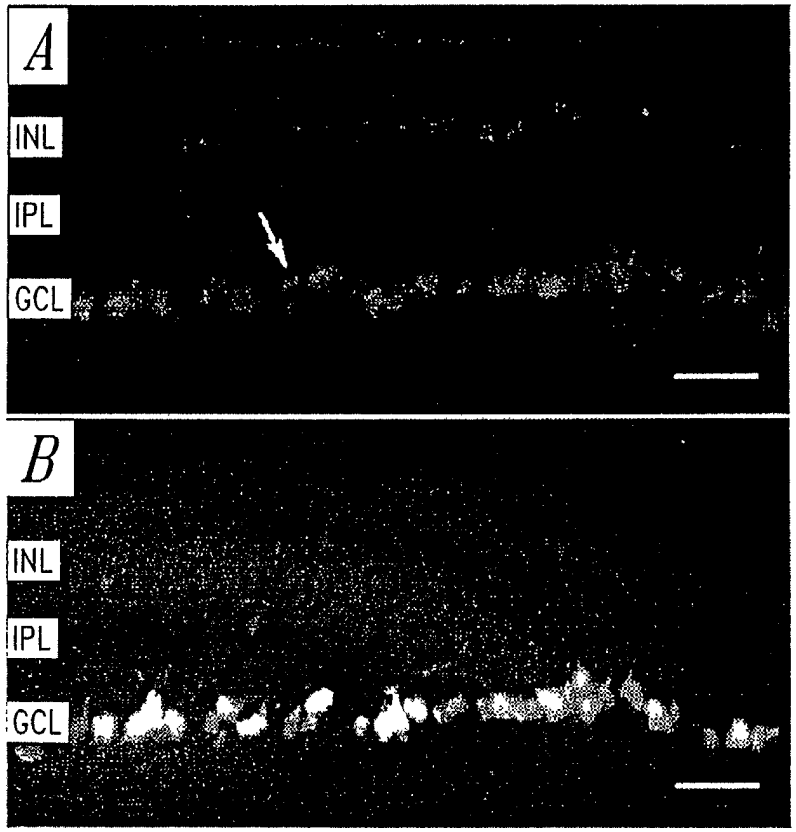

Time Course of AAV-Medicated Transgene Expression in the Ganglion Cell layer
Number of LacZ-positive cells
(mean ±S.D. x 10^3)
100
80
60
40
20
0
2 weeks
4 weeks
8 weeks
Time after intraocular injection of AAV

Fig. 17

Localization of AAV-Medicated LacZ Gene Product in Retrograde Labled RCG



α-LacZ

Fluorogold

Fig. 18

Quantification of Flourogold and LacZ Positive Cells in the Ganglion Cell Layer Following Intravitreal Injection of rAAV-LacZ

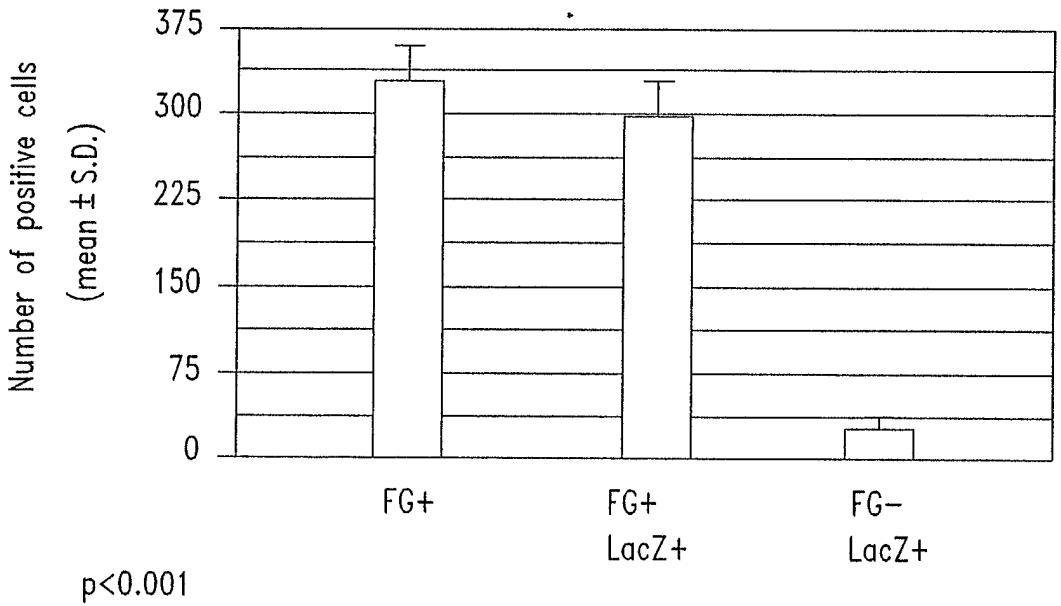
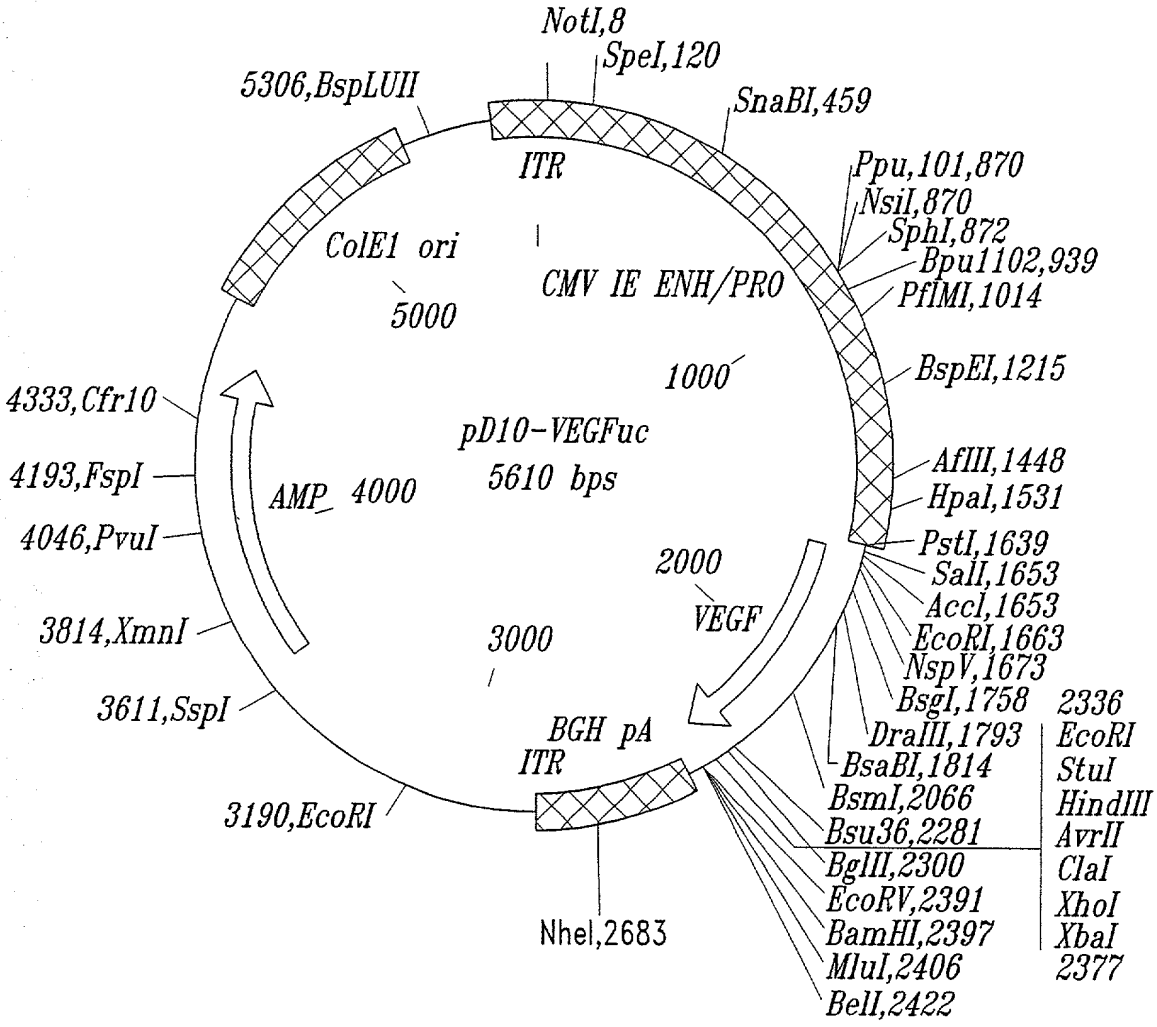


Fig. 19

Localization of Heparin sulfate Proteoglycan, the Cellular Receptor for AAV, in the Adult Rat Retina

Fig. 20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ITR
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PflMI,1014
ColE1 ori
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CMV IE ENH/PRO
1000
BspEI,1215
4333,Cfr10
pD10-VEGFuc
5610 bps
AfIII,1448
HpaI,1531
4193,FspI
AMP 4000
4046,PvuI
PstI,1639
SalI,1653
AccI,1653
2000
VEGF
EcoRI,1663
NspV,1673
3814,XmnI
3000
BsgI,1758
2336
EcoRI
3611,SspI
BGH pA
DraIII,1793
ITR
BsaBI,1814
StuI
BsmI,2066
HindIII
3190,EcoRI
Bsu36,2281
AvrII
BglII,2300
ClaI
EcoRV,2391
XhoI
NheI,2683
BamHI,2397
XbaI
MluI,2406
2377
BclI,2422

Fig. 21

Nucleotide Sequence of pD10-VEGFuc

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AGAGCGGAGAAAGCATTTGTTTGTACAAGATCCGCAGACGTGTAAATGTTCCTGCAAAAACACAGACTCGCGTTGCAAGGCGAGGCAGCTTGAGTTAAACG
AACGTACTTGCAGATGTGACAAGCCGAGGCGGTGAGCCGGGCAGGAGGAAGGAGCCTCCCTCAGGGTTTCGGGAACCAGATCTCTCACCAGGAAAGACTGA
TACAGAAAGGGCGAATTCAGGCCTAAGCTTCCTAGGTATCGATCTCGAGCAAGTCTAGAAAGCCATGGATATCGGATCCACTACGCGTTAGAGCTCGCTGA
TCAGCCTCGACTGTGCCTTCTAGTTGCCAGCCATCTGTTGTTTGCCCCTCCCCCGTGCCTTCCTTGACCCTGGAAGGTGCCACTCCCACTGTCCTTTCCTA
ATAAAATGAGGAAATTGCATCGCATTGTCTGAGTAGGTGTCATTCTATTCTGGGGGGTGGGGTGGGGCAGGACAGCAAGGGGGAGGATTGGGAAGACAATA
GCAGGGGGGTGGGCGAAGAACTCCAGCATGAGATCCCCGCGCTGGAGGATCATCCAGCTAGCAAGTCCCATCAGTGATGGAGTTGGCCACTCCCTCTCTGC
GCGCTCGCTCGCTCACTGAGGCCGGGCGACCAAAGGTCGCCCGACGCCCGGGCTTTGCCCGGGCGGCCTCAGTGAGCGAGCGAGCGCGCCAGCGATTCTCT
TGTTTGCTCCAGACTCTCAGGCAATGACCTGATAGCCTTTGTAGAGACCTCTCAAAAATAGCTACCCTCTCCGGCATGAATTTATCAGCTAGAACGGTTGA
ATATCATATTGATGGTGATTTGACTGTCTCCGGCCTTTCTCACCCGTTTGAATCTTTACCTACACATTACTCAGGCATTGCATTTAAAATATATGAGGGTT
CTAAAAATTTTTATCCTTGCGTTGAAATAAAGGCTTCTCCCGCAAAAGTATTACAGGGTCATAATGTTTTTGGTACAACCGATTTAGCTTTATGCTCTGAG
GCTTTATTGCTTAATTTTGCTAATTCTTTGCCTTGCCTGTATGATTTATTGGATGTTGGAATTCCTGATGCGGTATTTTCTCCTTACGCATCTGTGCGGTA
TTTCACACCGCATATGGTGCACTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGACACCCGCCAACACCCGCTGACGCGCCCTGACGG
GCTTGTCTGCTCCCGGCATCCGCTTACAGACAAGCTGTGACCGTCTCCGGGAGCTGCATGTGTCAGAGGTTTTCACCGTCATCACCGAAACGCGCGAGACG
AAAGGGCCTCGTGATACGCCTATTTTTATAGGTTAATGTCATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCC
CTATTTGTTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATATTGAAAAAGGAAGAGTATGAGT

Fig. 22A

ATTCAACATTTCCGTGTCGCCCTTATTCCCTTTTTTGCGGCATTTTGCCTTCCTGTTTTTGCTCACCCAGAAACGCTGGTGAAAGTAAAAGATGCTGAAGA
TCAGTTGGGTGCACGAGTGGGTTACATCGAACTGGATCTCAACAGCGGTAAGATCCTTGAGAGTTTTCGCCCCGAAGAACGTTTTCCAATGATGAGCACTT
TTAAAGTTCTGCTATGTGGCGCGGTATTATCCCGTATTGACGCCGGGCAAGAGCAACTCGGTCGCCGCATACACTATTCTCAGAATGACTTGGTTGAGTAC
TCACCAGTCACAGAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGCTGCCATAACCATGAGTGATAACACTGCGGCCAACTTACTTCT
GACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAACATGGGGGATCATGTAACTCGCCTTGATCGTTGGGAACCGGAGCTGAATGAAGCCA
TACCAAACGACGAGCGTGACACCACGATGCCTGTAGCAATGGCAACAACGTTGCGCAAACTATTAACTGGCGAACTACTTACTCTAGCTTCCCGGCAACAA
TTAATAGACTGGATGGAGGCGGATAAAGTTGCAGGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAATCTGGAGCCGGTGAGCG
TGGGTCTCGCGGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTATCTACACGACGGGGAGTCAGGCAACTATGGATGAACGAA
ATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCATTGGTAACTGTCAGACCAAGTTTACTCATATATACTTTAGATTGATTTAAAACTTCATTTT
TAATTTAAAAGGATCTAGGTGAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTTAACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAA
GATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAAACCACCGCTACCAGCGGTGGTTTGTTTGCCGGATCAAG
AGCTACCAACTCTTTTTCCGAAGGTAACTGGCTTCAGCAGAGCGCAGATACCAAATACTGTCCTTCTAGTGTAGCCGTAGTTAGGCCACCACTTCAAGAAC
TCTGTAGCACCGCCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCGTGTCTTACCGGGTTGGACTCAAGACGATA
GTTACCGGATAAGGCGCAGCGGTCGGGCTGAACGGGGGGTTCGTGCACACAGCCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGCGTG
AGCTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGG
GGAAACGCCTGGTATCTTTATAGTCCTGTCGGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGGCGGAGCCTATGGAAAAA
CGCCAGCAACGCGGCCTTTTTACGGTTCCTGGCCTTTTGCTGGCCTTTTGCTCACATGTTCTTTCCTGCGTTATCCCCTGATTCTGTGGATAACCGTATTA
CCGCCTTTGAGTGAGCTGATACCGCTCGCCGCAGCCGAACGACCGAGCGCAGCGAGTCAGTGAGCGAGGAAGCGGAAGAGCGCCCAATACGCAAACCGCCT
CTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCGCGCTCGCTCGCTCACTGAGGCCGCCCGGGCAAAGCCCGGGCGTCGGGCGACCTTTGGTCGCCC
GGCCTCAGTGAGCGAGCGAGCGCGCAGAGAGGGAGTGGCCAACTCCATCACTGAT

Fig. 22B

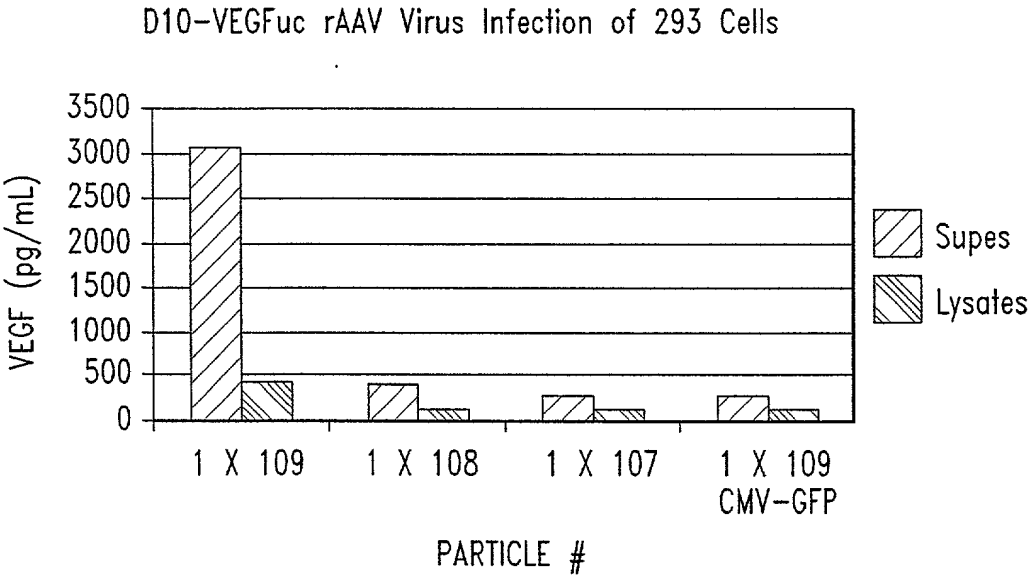


Fig. 23

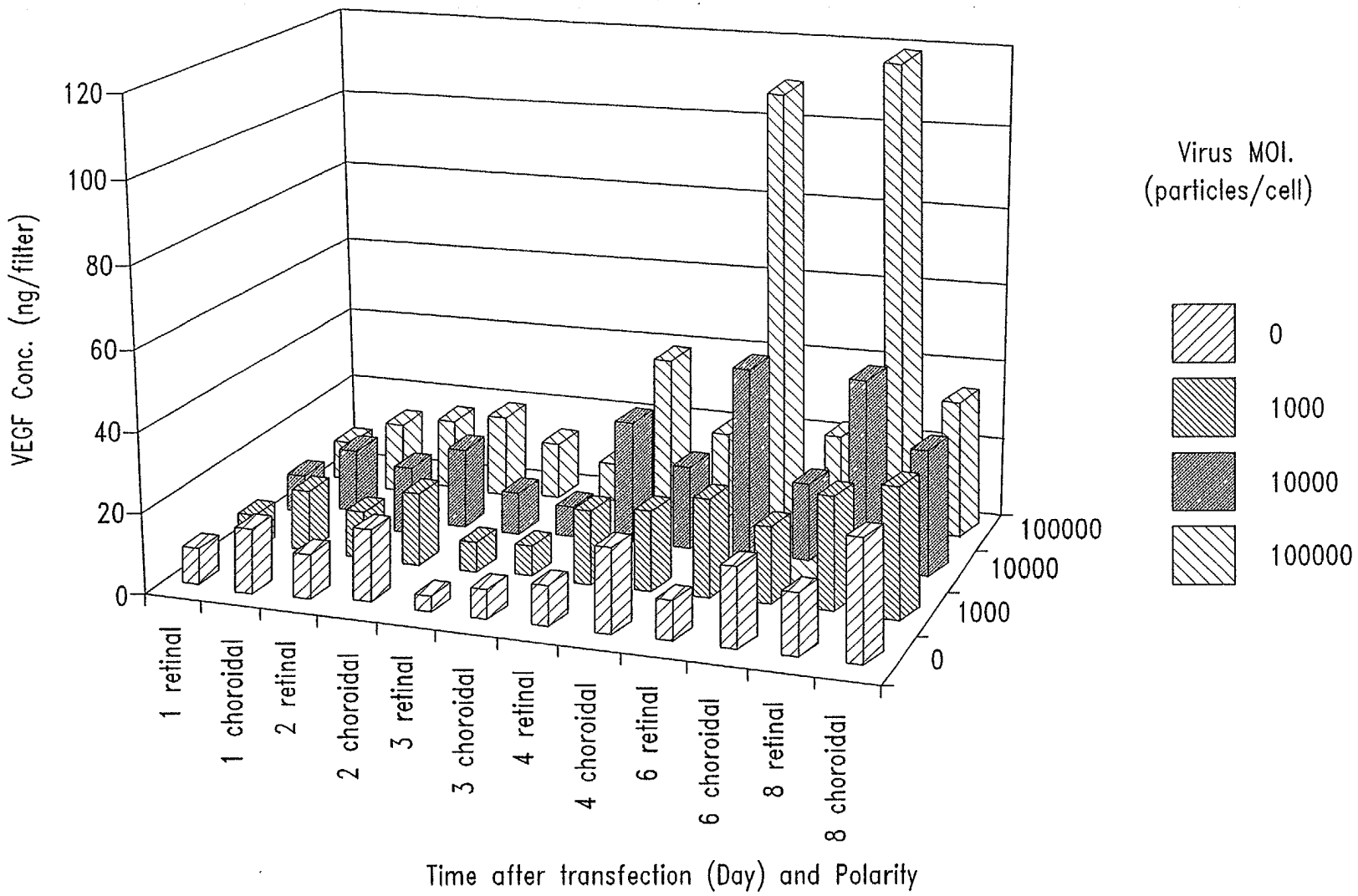

VEGF Conc. (ng/filter)
120
100
80
60
40
20
0
1 retinal
1 choroidal
2 retinal
2 choroidal
3 retinal
3 choroidal
4 retinal
4 choroidal
6 retinal
6 choroidal
8 retinal
8 choroidal
Time after transfection (Day) and Polarity
Virus MOI.
(particles/cell)
0
1000
10000
100000
100000
10000
1000
0

Fig. 24

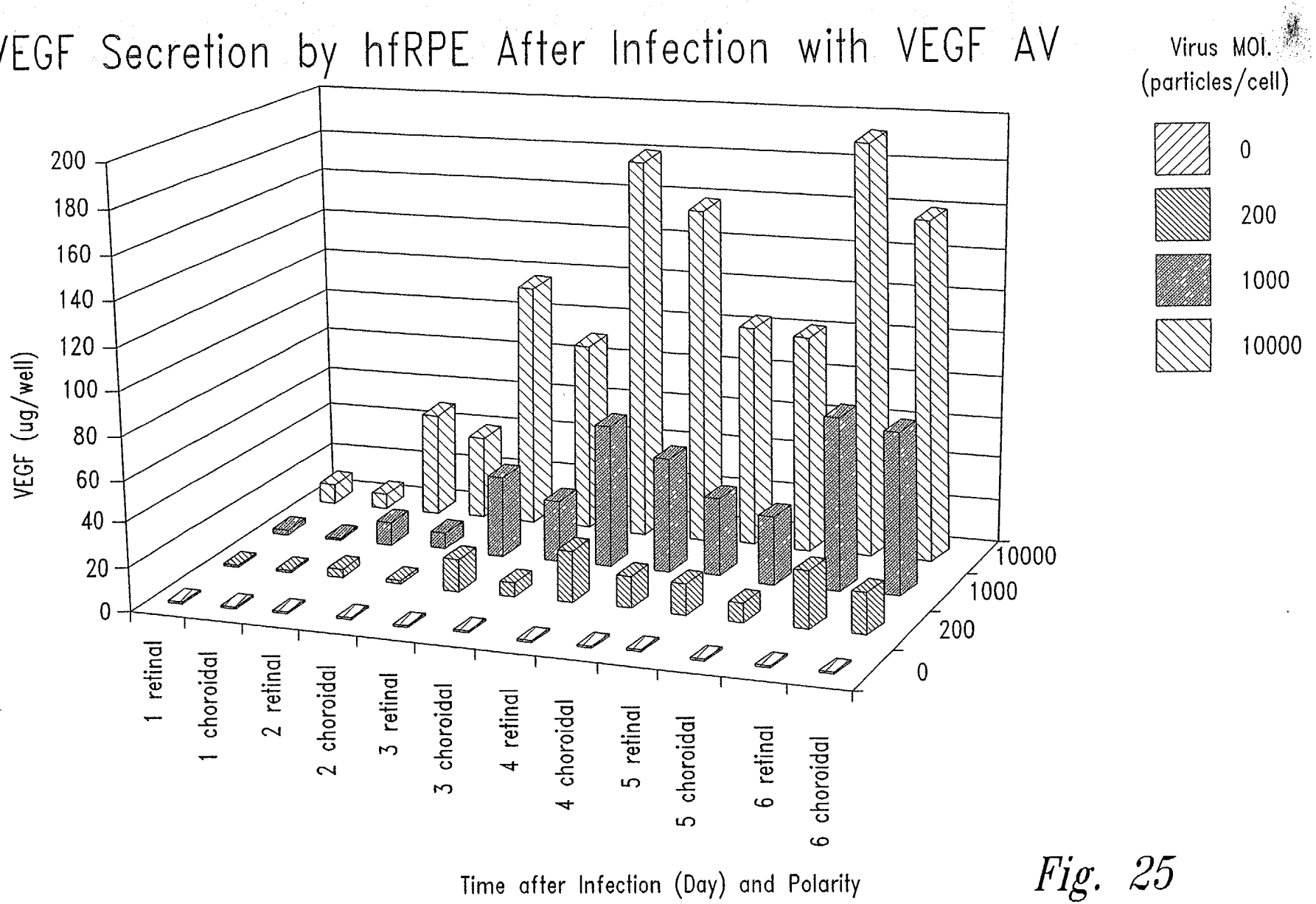
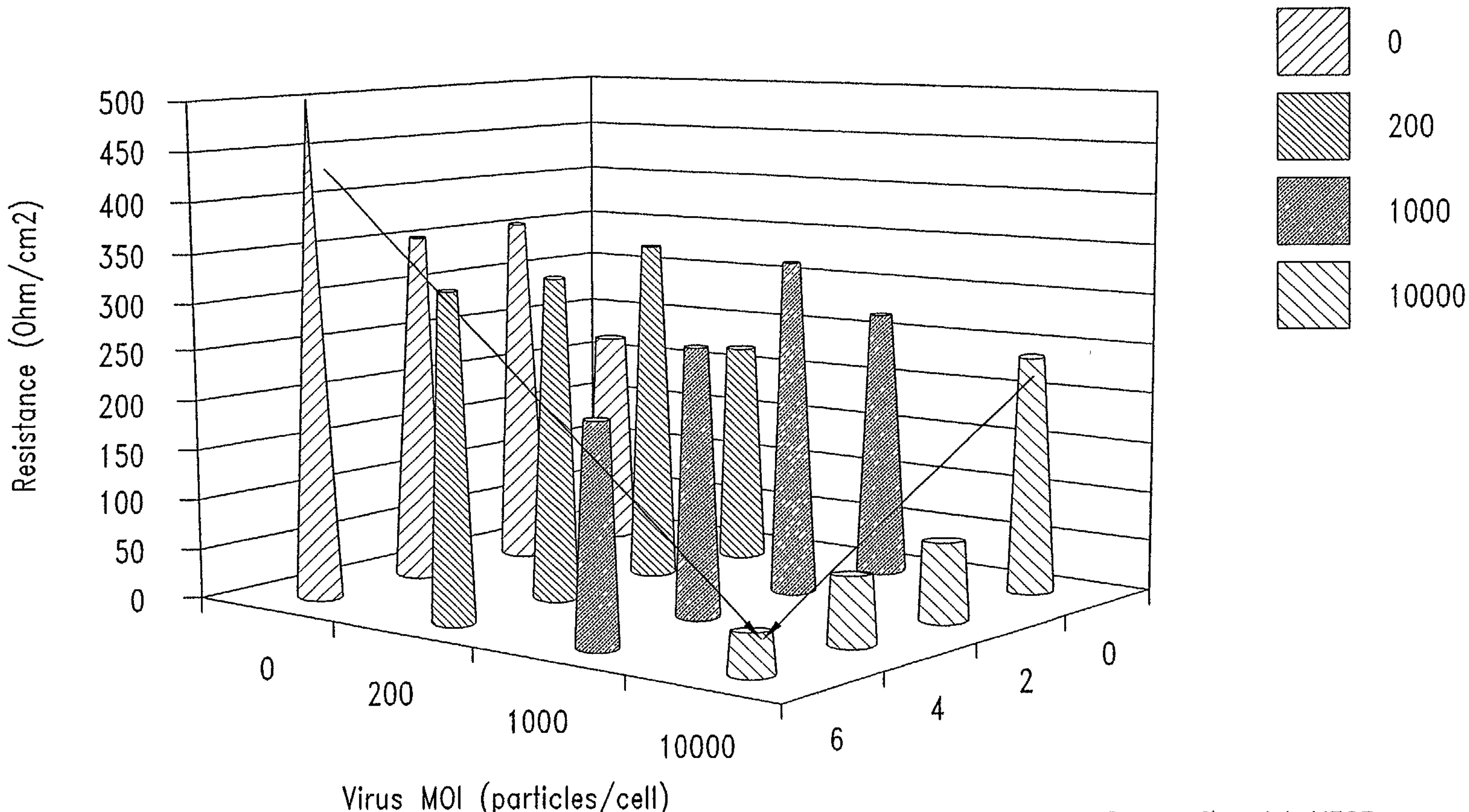


Fig. 25

Resistance of hfRPE After Infection with VEGF AV



Days after Ad-VEGF Transfection

Fig. 26

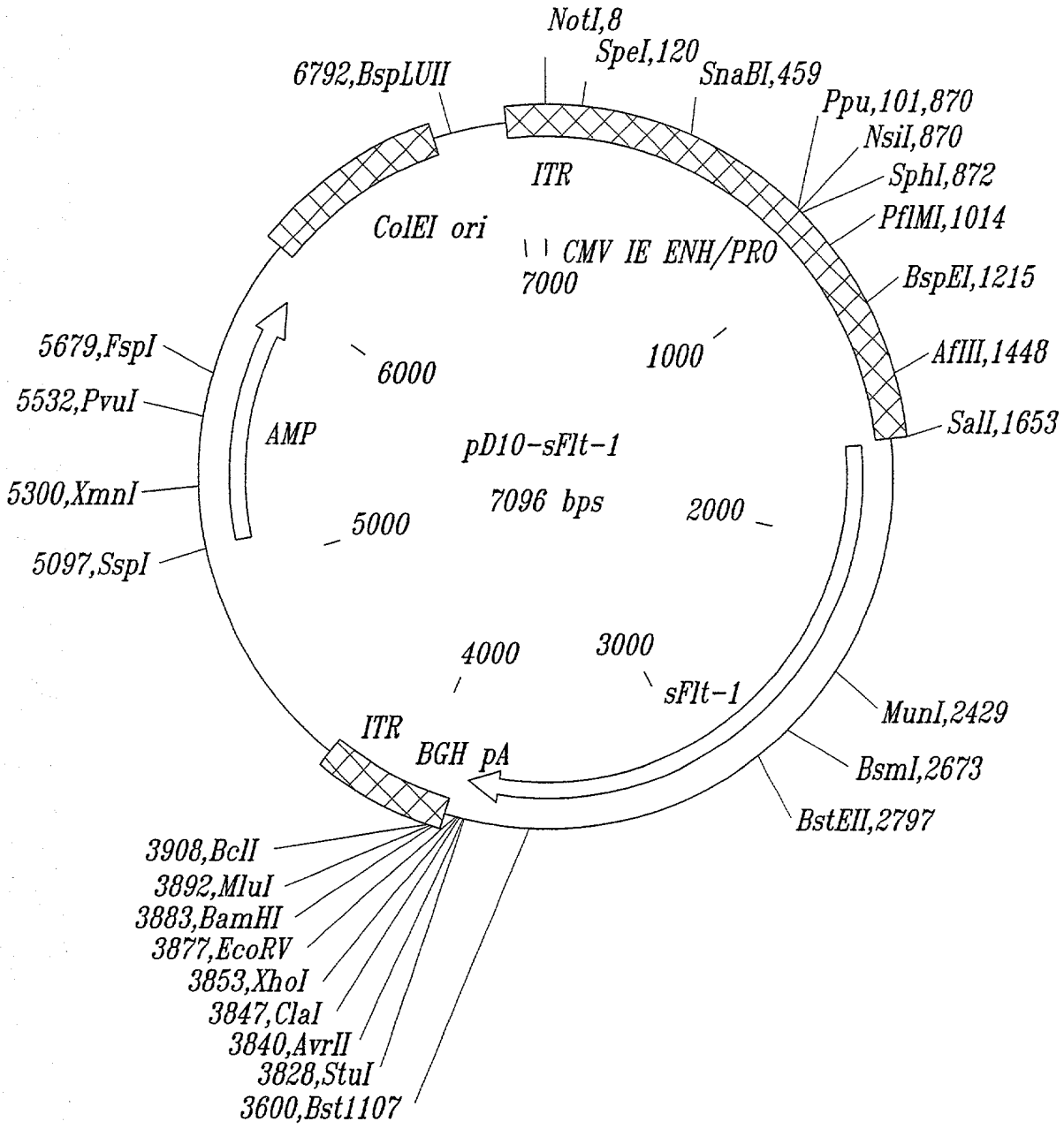

NotI,8
SpeI,120
SnaBI,459
Ppu,101,870
NsiI,870
SphI,872
PflMI,1014
BspEI,1215
AflII,1448
SalI,1653
MunI,2429
BsmI,2673
BstEII,2797
3908,BclI
3892,MluI
3883,BamHI
3877,EcoRV
3853,XhoI
3847,ClaI
3840,AvrII
3828,StuI
3600,Bst1107
ITR
BGH pA
sFlt-1
CMV IE ENH/PRO
ITR
ColEI ori
AMP
6792,BspLUII
5679,FspI
5532,PvuI
5300,XmnI
5097,SspI
pD10-sFlt-1
7096 bps
1000
2000
3000
4000
5000
6000
7000

Fig. 27

Nucleotide Sequence of pD10-SFlt-1

AAAACTTGCGGCCGCGGAATTTCGACTCTAGGCCATTGCATACGTTGTATCTATATCATAATATGTACATTTATATTGGCTCATGTCCAATATGACCGC
CATGTTGACATTGATTATTGACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCCGCGTTACATAACTTACGG
TAAATGGCCCGCCTGGCTGACCGCCCAACGACCCCCGCCCATTGACGTCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGACTTTCCATTGAC
GTCAATGGGTGGAGTATTTACGGTAAACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCTATTGACGTCAATGACGGTAAAT
GGCCCGCCTGGCATTATGCCCAGTACATGACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGT
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TAGTGAACCGTCAGATCGCCTGGAGACGCCATCCACGCTGTTTTGACCTCCATAGAAGACACCGGGACCGATCCAGCCTCCGCGGCCGGGAACGGTGCA
TTGGAACGCGGATTCCCCGTGCCAAGAGTGACGTAAGTACCGCCTATAGACTCTATAGGCACACCCCTTTGGCTCTTATGCATGCTATACTGTTTTTGG
CTTGGGGCCTATACACCCCCGCTCCTTATGCTATAGGTGATGGTATAGCTTAGCCTATAGGTGTGGGTTATTGACCATTATTGACCACTCCCCTATTGG
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CTCTGTATTTTTACAGGATGGGGTCCATTTATTATTTACAAATTCACATATACAACAACGCCGTCCCCCGTGCCCGCAGTTTTTATTAAACATAGCGTG
GGATCTCCGACATCTCGGGTACGTGTTCCGGACATGGGCTCTTCTCCGGTAGCGGCGGAGCTTCCACATCCGAGCCCTGGTCCCATCCGTCCAGCGGCT
CATGGTCGCTCGGCAGCTCCTTGCTCCTAACAGTGGAGGCCAGACTTAGGCACAGCACAATGCCCACCACCACCAGTGTGCCGCACAAGGCCGTGGCGG
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TGTTGTATTCTGATAAGAGTCAGAGGTAACTCCCGTTGCGGTGCTGTTAACGGTGGAGGGCAGTGTAGTCTGAGCAGTACTCGTTGCTGCCGCGCGCGC
CACCAGACATAATAGCTGACAGACTAACAGACTGTTCCTTTCCATGGGTCTTTTCTGCAGTCACCGTCGTCGACCTAAGAATTCGCCCTTTCACCATGG
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GTTTAAAAGGCACCCAGCACATCATGCAAGCAGGCCAGACACTGCATCTCCAATGCAGGGGGGAAGCAGCCCATAAATGGTCTTTGCCTGAAATGGTGA
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ACACTGGCTTCTACAGCTGCAAATATCTAGCTGTACCTACTTCAAAGAAGAAGGAAACAGAATCTGCAATCTATATATTTATTAGTGATACAGGTAGAC
CTTTCGTAGAGATGTACAGTGAAATCCCCGAAATTATACACATGACTGAAGGAAGGGAGCTCGTCATTCCCTGCCGGGTTACGTCACCTAACATCACTG
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ACGAAAAGGCCGTGTCATCGTTTCCAGACCCGGCTCTCTACCCACTGGGCAGCAGACAAATCCTGACTTGTACCGCATATGGTATCCCTCAACCTACAA
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CAGTTGTCTCATATCATCTTGATTTATTGTCACTGTTGCTAACTTTCAGGCTCAAGGGCGAATTCAGGCCTAAGCTTCCTAGGTATCGATCTCGAGCAA
GTCTAGAAAGCCATGGATATCGGATCCACTACGCGTTAGAGCTCGCTGATCAGCCTCGACTGTGCCTTCTAGTTGCCAGCCATCTGTTGTTTGCCCCTC

Fig. 28A

CCCCGTGCCTTCCTTGACCCTGGAAGGTGCCACTCCCACTGTCCTTTCCTAATAAAATGAGGAAATTGCATCGCATTGTCTGAGTAGGTGTCATTCTAT
TCTGGGGGGGTGGGGTGGGGCAGGACAGCAAGGGGGAGGATTGGGAAGACAATAGCAGGGGGGTGGGCGAAGAACTCCAGCATGAGATCCCCGCGCTGGA
GGATCATCCAGCTAGCAAGTCCCATCAGTGATGGAGTTGGCCACTCCCTCTCTGCGCGCTCGCTCGCTCACTGAGGCCGGGCGACCAAAGGTCGCCCGA
CGCCCGGGCTTTGCCCGGGCGGCCTCAGTGAGCGAGCGAGCGCGCCAGCGATTCTCTTGTTTGCTCCAGACTCTCAGGCAATGACCTGATAGCCTTTGT
AGAGACCTCTCAAAAATAGCTACCCTCTCCGGCATGAATTTATCAGCTAGAACGGTTGAATATCATATTGATGGTGATTTGACTGTCTCCGGCCTTTCT
CACCCGTTTGAATCTTTACCTACACATTACTCAGGCATTGCATTTAAAATATATGAGGGTTCTAAAAATTTTTATCCTTGCGTTGAAATAAAGGCTTCT
CCCGCAAAAGTATTACAGGGTCATAATGTTTTTGGTACAACCGATTTAGCTTTATGCTCTGAGGCTTTATTGCTTAATTTTGCTAATTCTTTGCCTTGC
CTGTATGATTTATTGGATGTTGGAATTCCTGATGCGGTATTTTCTCCTTACGCATCTGTGCGGTATTTCACACCGCATATGGTGCACTCTCAGTACAAT
CTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGACACCCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGACA
AGCTGTGACCGTCTCCGGGAGCTGCATGTGTCAGAGGTTTTCACCGTCATCACCGAAACGCGCGAGACGAAAGGGCCTCGTGATACGCCTATTTTTATA
GGTTAATGTCATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTGTTTATTTTTCTAAATACATTC
AAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATATTGAAAAAGGAAGAGTATGAGTATTCAACATTTCCGTGTCGCCCTTAT
TCCCTTTTTTGCGGCATTTTGCCTTCCTGTTTTTGCTCACCCAGAAACGCTGGTGAAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTTA
CATCGAACTGGATCTCAACAGCGGTAAGATCCTTGAGAGTTTTCGCCCCGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGC
GGTATTATCCCGTATTGACGCCGGGCAAGAGCAACTCGGTCGCCGCATACACTATTCTCAGAATGACTTGGTTGAGTACTCACCAGTCACAGAAAAGCA
TCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGCTGCCATAACCATGAGTGATAACACTGCGGCCAACTTACTTCTGACAACGATCGGAGGACC
GAAGGAGCTAACCGCTTTTTTGCACAACATGGGGGATCATGTAACTCGCCTTGATCGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCG
TGACACCACGATGCCTGTAGCAATGGCAACAACGTTGCGCAAACTATTAACTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAATAGACTGGAT
GGAGGCGGATAAAGTTGCAGGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAATCTGGAGCCGGTGAGCGTGGGTCTCGCGG
TATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTATCTACACGACGGGGAGTCAGGCAACTATGGATGAACGAAATAGACAGAT
CGCTGAGATAGGTGCCTCACTGATTAAGCATTGGTAACTGTCAGACCAAGTTTACTCATATATACTTTAGATTGATTTAAAACTTCATTTTTAATTTAA
AAGGATCTAGGTGAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTTAACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAA
AGGATCTTCTTGAGATCCTTTTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAAACCACCGCTACCAGCGGTGGTTTGTTTGCCGGATCAAGAGCT
ACCAACTCTTTTTCCGAAGGTAACTGGCTTCAGCAGAGCGCAGATACCAAATACTGTCCTTCTAGTGTAGCCGTAGTTAGGCCACCACTTCAAGAACTC
TGTAGCACCGCCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCGTGTCTTACCGGGTTGGACTCAAGACGATA
GTTACCGGATAAGGCGCAGCGGTCGGGCTGAACGGGGGGTTCGTGCACACAGCCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGCG
TGAGCTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCC
AGGGGGAAACGCCTGGTATCTTTATAGTCCTGTCGGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGGCGGAGCCTATG
GAAAAACGCCAGCAACGCGGCCTTTTTACGGTTCCTGGCCTTTTGCTGGCCTTTTGCTCACATGTTCTTTCCTGCGTTATCCCCTGATTCTGTGGATAA
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CAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCGCGCTCGCTCGCTCACTGAGGCCGCCCGGGCAAAGCCCGGGCGTCGGGCGAC
CTTTGGTCGCCCGGCCTCAGTGAGCGAGCGAGCGCGCAGAGAGGGAGTGGCCAACTCCATCACTGAT

Fig. 28B

HumanFGF-20

atggctcccttagccgaagtcgggggctttctgggcggcctggagggcttgggccagcag
M A P L A E V G G F L G G L E G L G Q Q

gtgggttcgcatttcctgttgcctcctgccggggagcggccgccgctgctgggcgagcgc
V G S H F L L P P A G E R P P L L G E R

aggagcgcggcggagcggagcgcgcgcggcgggccgggggctgcgcagctggcgcacctg
R S A A E R S A R G G P G A A Q L A H L

cacggcatcctgcgccgccggcagctctattgccgcaccggcttccacctgcagatcctg
H G I L R R R Q L Y C R T G F H L Q I L

cccgacggcagcgtgcagggcacccggcaggaccacagcctcttcggtatcttggaattc
P D G S V Q G T R Q D H S L F G I L E F

atcagtgtggcagtgggactggtcagtattagaggtgtggacagtggtctctatcttgga
I S V A V G L V S I R G V D S G L Y L G

atgaatgacaaaggagaactctatggatcagagaaacttacttccgaatgcatctttagg
M N D K G E L Y G S E K L T S E C I F R

gagcagtttgaagagaactggtataacacctattcatctaacatatataaacatggagac
E Q F E E N W Y N T Y S S N I Y K H G D

actggccgcaggtattttgtggcacttaacaaagacggaactccaagagatggcgccagg
T G R R Y F V A L N K D G T P R D G A R

tccaagaggcatcagaaatttacacatttcttacctagaccagtggatccagaaagagtt
S K R H Q K F T H F L P R P V D P E R V

ccagaattgtacaaggacctactgatgtacacttga
P E L Y K D L L M Y T

Fig. 29

Mouse FGF-21 cDNA in pGEM-T

gagcgcagccctgatggaatggatgagatctagagttgggaccctgggactgtgggtccg SEQ ID NO: 1
M E W M R S R V G T L G L W V R SEQ ID NO: 2

actgctgctggctgtcttcctgctgggggtctaccaagcataccccatccctgactccag
L L L A V F L L G V Y Q A Y P I P D S S

ccccctcctccagtttgggggtcaagtccggcagaggtacctctacacagatgacgacca
P L L Q F G G Q V R Q R Y L Y T D D D Q

agacactgaagcccacctggagatcagggaggatggaacagtggtaggcgcagcacaccg
D T E A H L E I R E D G T V V G A A H R

cagtccagaaagtctcctggagctcaaagccttgaagccaggggtcattcaaatcctggg
S P E S L L E L K A L K P G V I Q I L G

tgtcaaagcctctaggtttctttgccaacagccagatggagctctctatggatcgcctca
V K A S R F L C Q Q P D G A L Y G S P H

ctttgatcctgaggcctgcagcttcagagaactgctgctggaggacggttacaatgtgta
F D P E A C S F R E L L L E D G Y N V Y

ccagtctgaagcccatggcctgcccctgcgtctgcctcagaaggactccccaaaccagga
Q S E A H G L P L R L P Q K D S P N Q D

tgcaacatcctggggacctgtgcgcttcctgcccatgccaggcctgctccacgagcccca
A T S W G P V R F L P M P G L L H E P Q

agaccaagcaggattcctgcccccagagcccccagatgtgggctcctctgacccccctgag
D Q A G F L P P E P P D V G S S·D P L S

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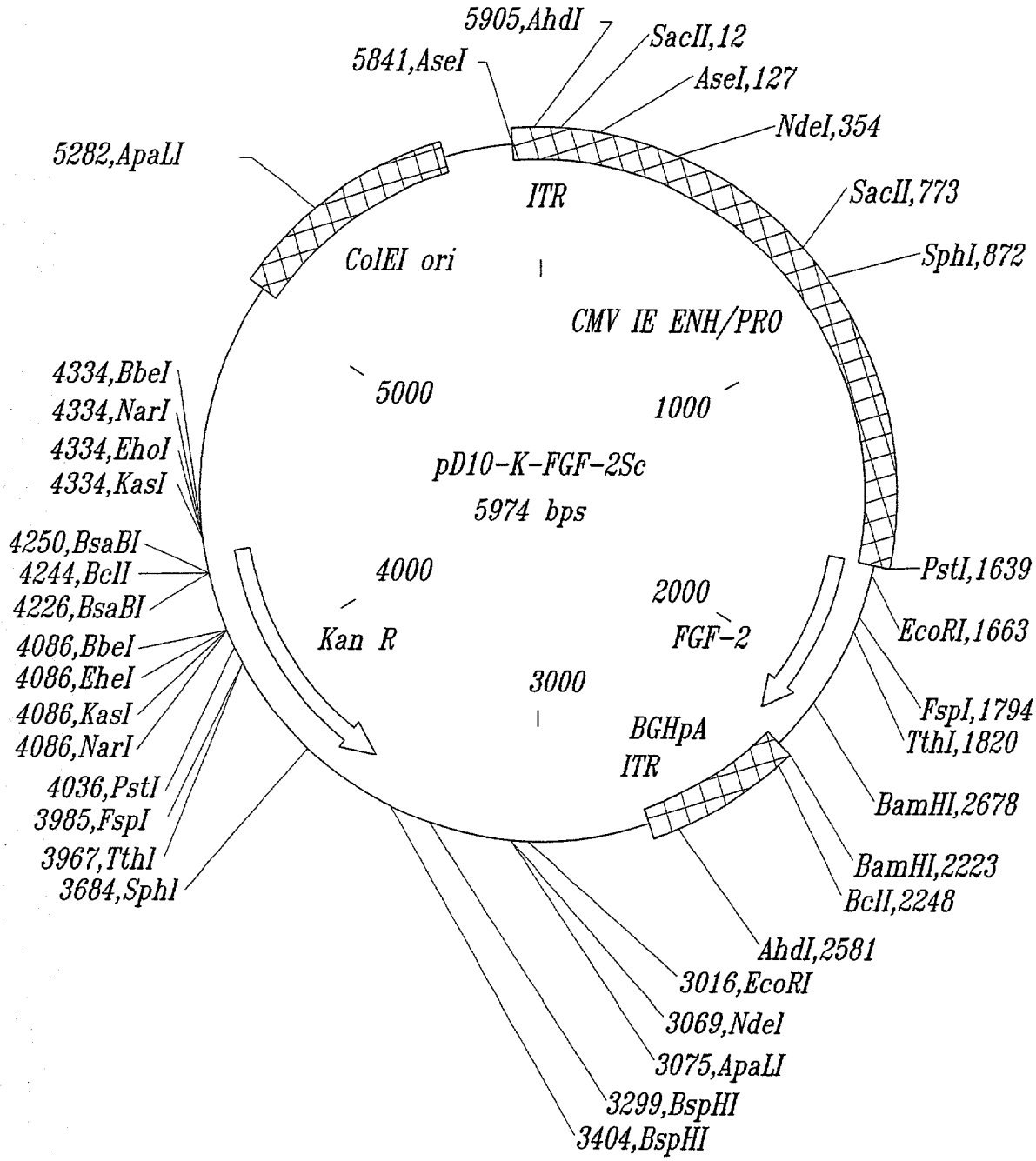
M V E P L Q G R S P S Y A S

Fig. 30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SacII,12
5841,AseI
AseI,127
NdeI,354
5282,ApaLI
ITR
SacII,773
SphI,872
ColEI ori
CMV IE ENH/PRO
4334,BbeI
4334,NarI
4334,EhoI
4334,KasI
5000
1000
pD10-K-FGF-2Sc
5974 bps
4250,BsaBI
4244,BclI
4226,BsaBI
4000
2000
PstI,1639
EcoRI,1663
4086,BbeI
4086,EheI
4086,KasI
4086,NarI
Kan R
FGF-2
3000
FspI,1794
TthI,1820
BGHpA
ITR
4036,PstI
3985,FspI
3967,TthI
3684,SphI
BamHI,2678
BamHI,2223
BclII,2248
AhdI,2581
3016,EcoRI
3069,NdeI
3075,ApaLI
3299,BspHI
3404,BspHI

Fig. 31

AAAACTTGCGGCCGCGGAATTTCGACTCTAGGCCATTGCATACGTTGTATCTATATCATAATATGTACATTTATATTGGCTCATGTCCAATATGACC
GCCATGTTGACATTGATTATTGACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCCGCGTTACATAACTT
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CGGTAAATGGCCCGCCTGGCATTATGCCCAGTACATGACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATG
GTGATGCGGTTTTGGCAGTACACCAATGGGCGTGGATAGCGGTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTGACGTCAATGGGAGTTTGT
TTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAATAACCCCGCCCCGTTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATAT
AAGCAGAGCTCGTTTAGTGAACCGTCAGATCGCCTGGAGACGCCATCCACGCTGTTTTGACCTCCATAGAAGACACCGGGACCGATCCAGCCTCCGC
GGCCGGGAACGGTGCATTGGAACGCGGATTCCCCGTGCCAAGAGTGACGTAAGTACCGCCTATAGACTCTATAGGCACACCCCTTTGGCTCTTATGC
ATGCTATACTGTTTTTGGCTTGGGGCCTATACACCCCCGCTCCTTATGCTATAGGTGATGGTATAGCTTAGCCTATAGGTGTGGGTTATTGACCATT
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GTCCTTCAGAGACTGACACGGACTCTGTATTTTTACAGGATGGGGTCCATTTATTATTTACAAATTCACATATACAACAACGCCGTCCCCCGTGCCC
GCAGTTTTTATTAAACATAGCGTGGGATCTCCGACATCTCGGGTACGTGTTCCGGACATGGGCTCTTCTCCGGTAGCGGCGGAGCTTCCACATCCGA
GCCCTGGTCCCATCCGTCCAGCGGCTCATGGTCGCTCGGCAGCTCCTTGCTCCTAACAGTGGAGGCCAGACTTAGGCACAGCACAATGCCCACCACC
ACCAGTGTGCCGCACAAGGCCGTGGCGGTAGGGTATGTGTCTGAAAATGAGCTCGGAGATTGGGCTCGCACCTGGACGCAGATGGAAGACTTAAGGC
AGCGGCAGAAGAAGATGCAGGCAGCTGAGTTGTTGTATTCTGATAAGAGTCAGAGGTAACTCCCGTTGCGGTGCTGTTAACGGTGGAGGGCAGTGTA
GTCTGAGCAGTACTCGTTGCTGCCGCGCGCGCCACCAGACATAATAGCTGACAGACTAACAGACTGTTCCTTTCCATGGGTCTTTTCTGCAGTCACC
GTCGTCGACCTAAGAATTCAGGTATGGCTGCTGGTTCTATCACTACCCTGCCAGCTCTGCCAGAAGACGGTGGTTCTGGTGCCTTCCCACCAGGTCA
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CCTACACATTACTCAGGCATTGCATTTAAAATATATGAGGGTTCTAAAAATTTTTATCCTTGCGTTGAAATAAAGGCTTCTCCCGCAAAAGTATTAC
AGGGTCATAATGTTTTTGGTACAACCGATTTAGCTTTATGCTCTGAGGCTTTATTGCTTAATTTTGCTAATTCTTTGCCTTGCCTGTATGATTTATT
GGATGTTGGAATTCCTGATGCGGTATTTTCTCCTTACGCATCTGTGCGGTATTTCACACCGCATATGGTGCACTCTCAGTACAATC

Fig. 32A

TGCTCTGATGCCGCATAGTTAAGCCAGCCCCGACACCCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGAC
AAGCTGTGACCGTCTCCGGGAGCTGCATGTGTCAGAGGTTTTCACCGTCATCACCGAAACGCGCGAGACGAAAGGGCCTCGTGATACGCCTATTTTT
ATAGGTTAATGTCATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTGTTTATTTTTCTAAATA
CATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATGTACCGTCAAGAAGGCGATAGAAGGCGATGCGCTGCGAATC
GGGAGCGGCGATACCGTAAAGCACGAGGAAGCGGTCAGCCCATTCGCTTCAGCAATATCACGGGTAGCCAACGCTATGTCCTGATAGCGGTCCGCCA
CACCCAGCCGGCCACAGTCGATGAATCCAGAAAAGCGGCCATTTTCCACCATGATATTCGGCAAGCAGGCATCGCCATGGGTCACGACGAGATCCTC
GCCGTCGGGCATGCGCGCCTTGAGCCTGGCGAACAGTTCGGCTGGCGCGAGCCCCTGATGCTCTTCGTCCAGATCATCCTGATCGACAAGACCGGCT
TCCATCCGAGTACGTGCTCGCTCGATGCGATGTTTCGCTTGGTGGTCGAATGGGCAGGTAGCCGGATCAAGCGTATGCAGCCGCCGCATTGCATCAG
CCATGATGGATACTTTCTCGGCAGGAGCAAGGTGAGATGACAGGAGATCCTGCCCCGGCACTTCGCCCAATAGCAGCCAGTCCCTTCCCGCTTCAGT
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GGATAACGCAGGAAAGAACATGCGGCGCGCCACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCC
ATAGGCTCCGCCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCC
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TCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTCAGCCCGACCGCTGCGCCTTATCCG
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Fig. 32B

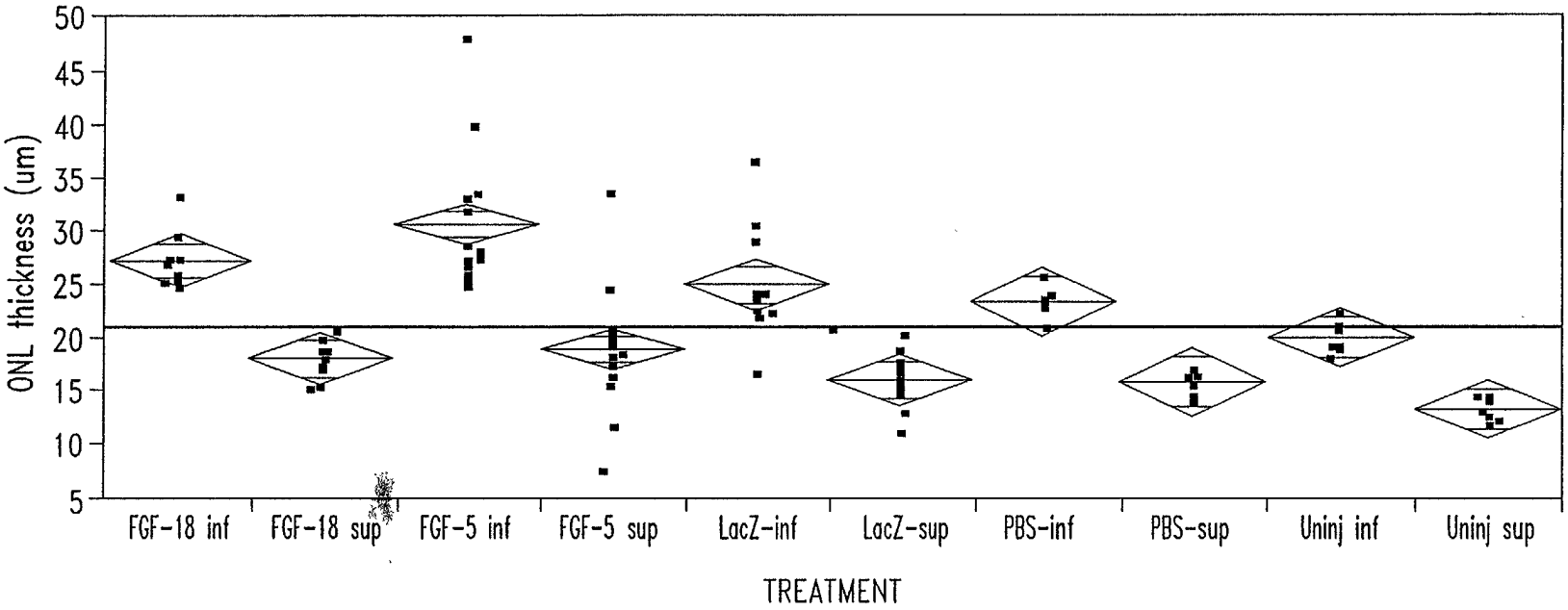
50
45
40
35
30
25
20
15
10
5
ONL thickness (um)
FGF-18 inf
FGF-18 sup
FGF-5 inf
FGF-5 sup
LacZ-inf
LacZ-sup
PBS-inf
PBS-sup
Uninj inf
Uninj sup
TREATMENT

Fig. 33

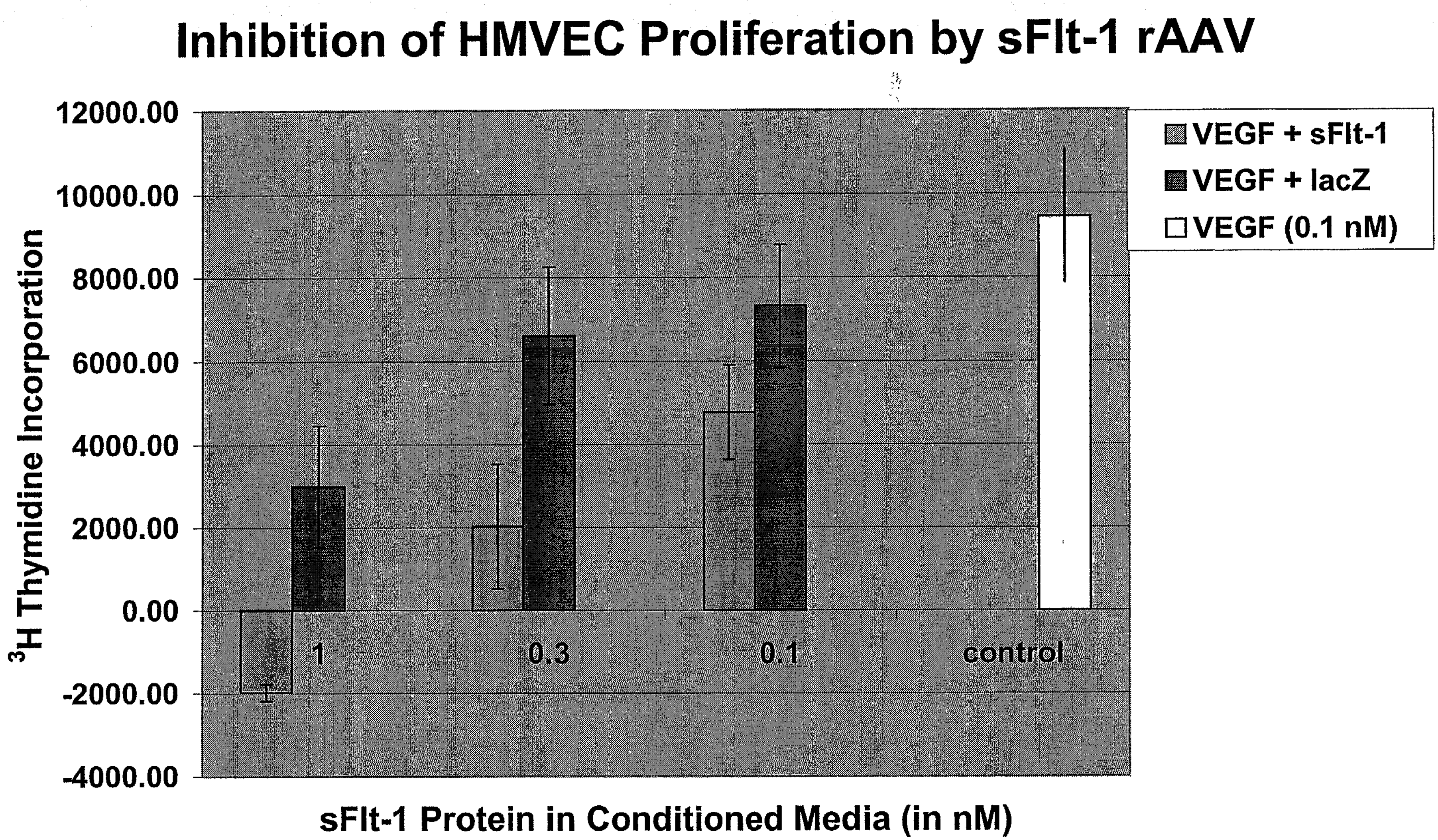
Inhibition of HMVEC Proliferation by sFlt-1 rAAV
12000.00
10000.00
8000.00
6000.00
4000.00
2000.00
0.00
-2000.00
-4000.00
³H Thymidine Incorporation
1
0.3
0.1
control
sFlt-1 Protein in Conditioned Media (in nM)
VEGF + sFlt-1
VEGF + lacZ
VEGF (0.1 nM)

FIGURE 34

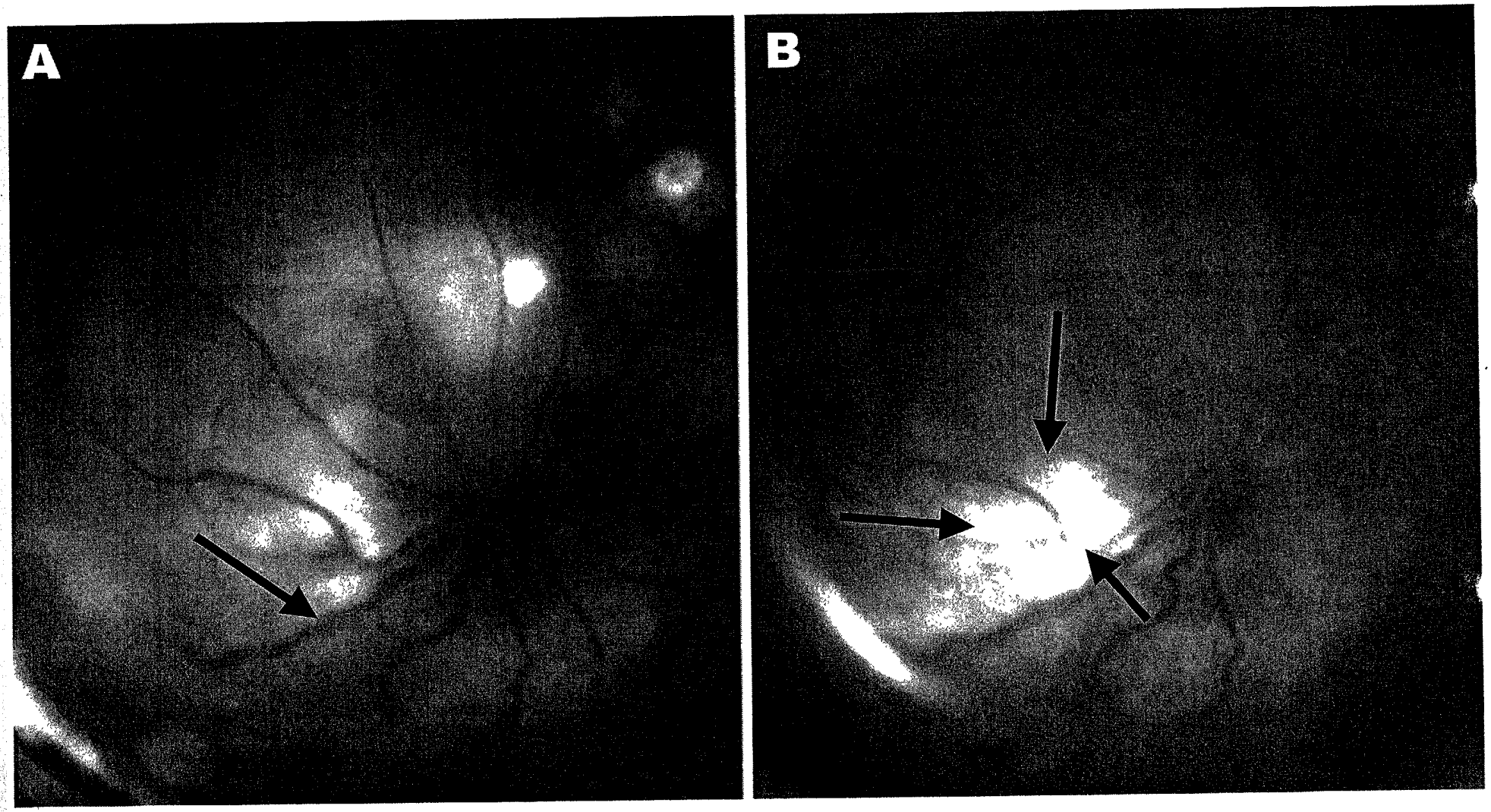

Figure 35. Fluorescein Angiography

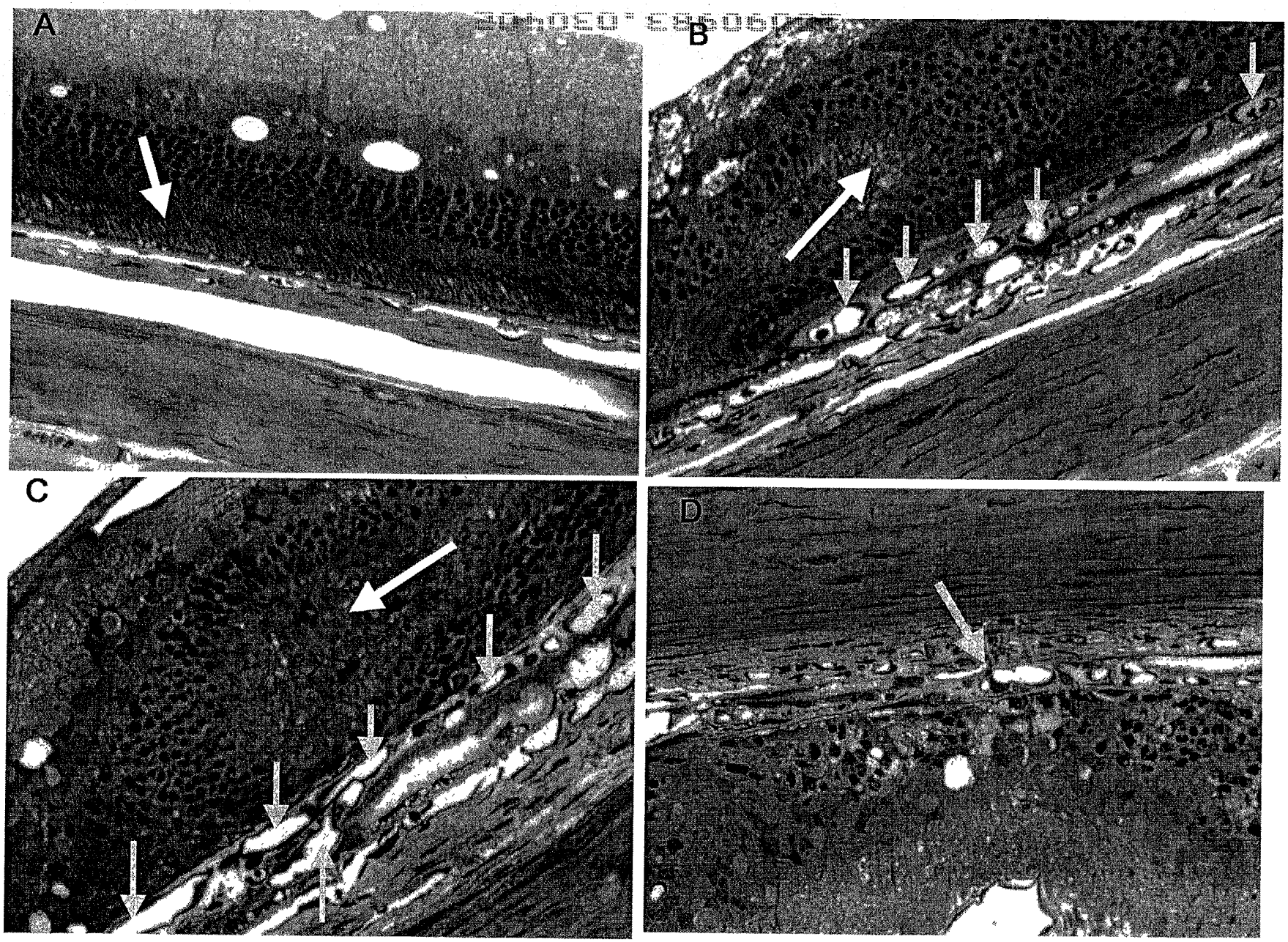

Figure 36. Epoxy Sections

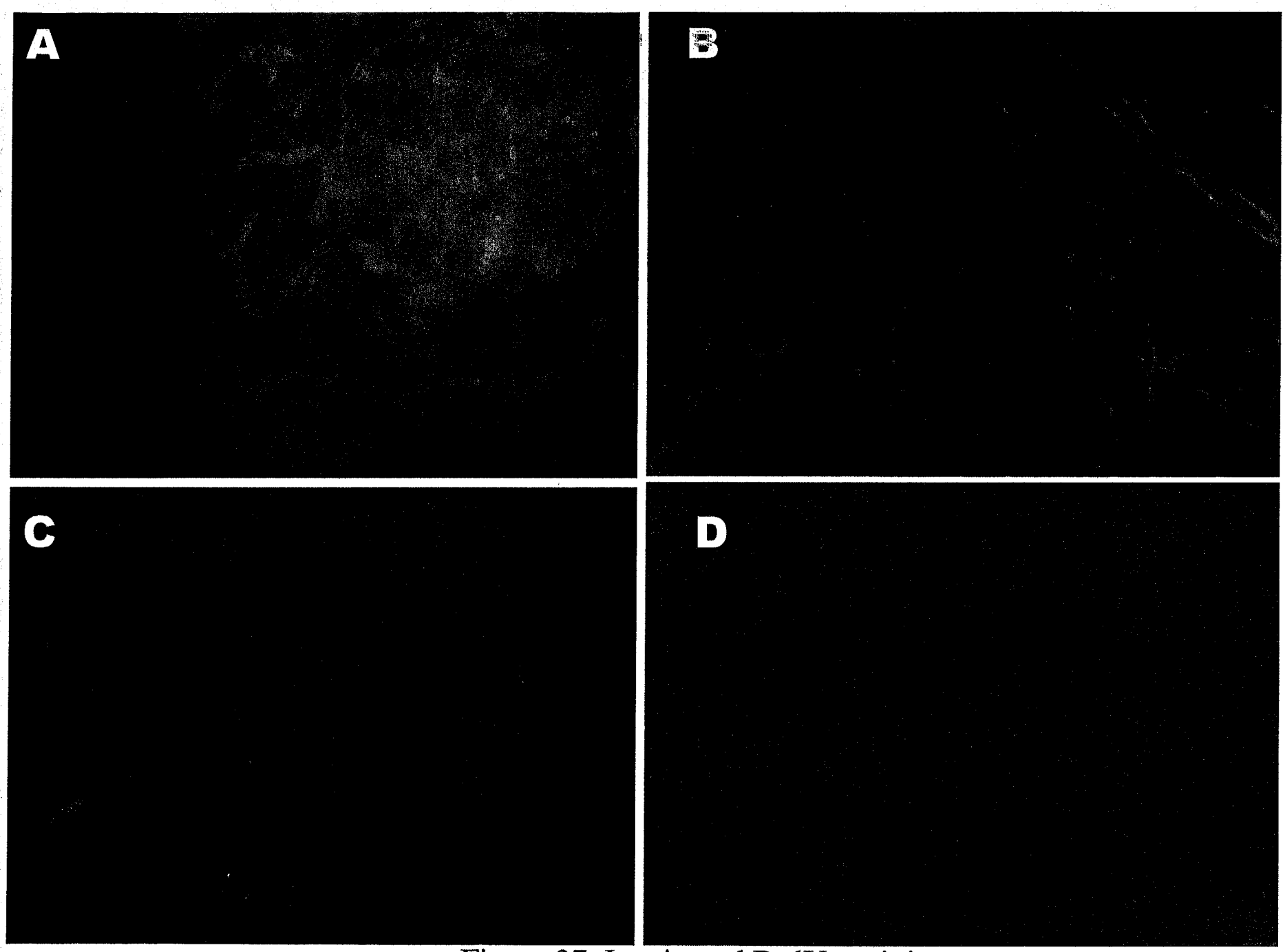

Figure 37. Lectin and BrdU staining

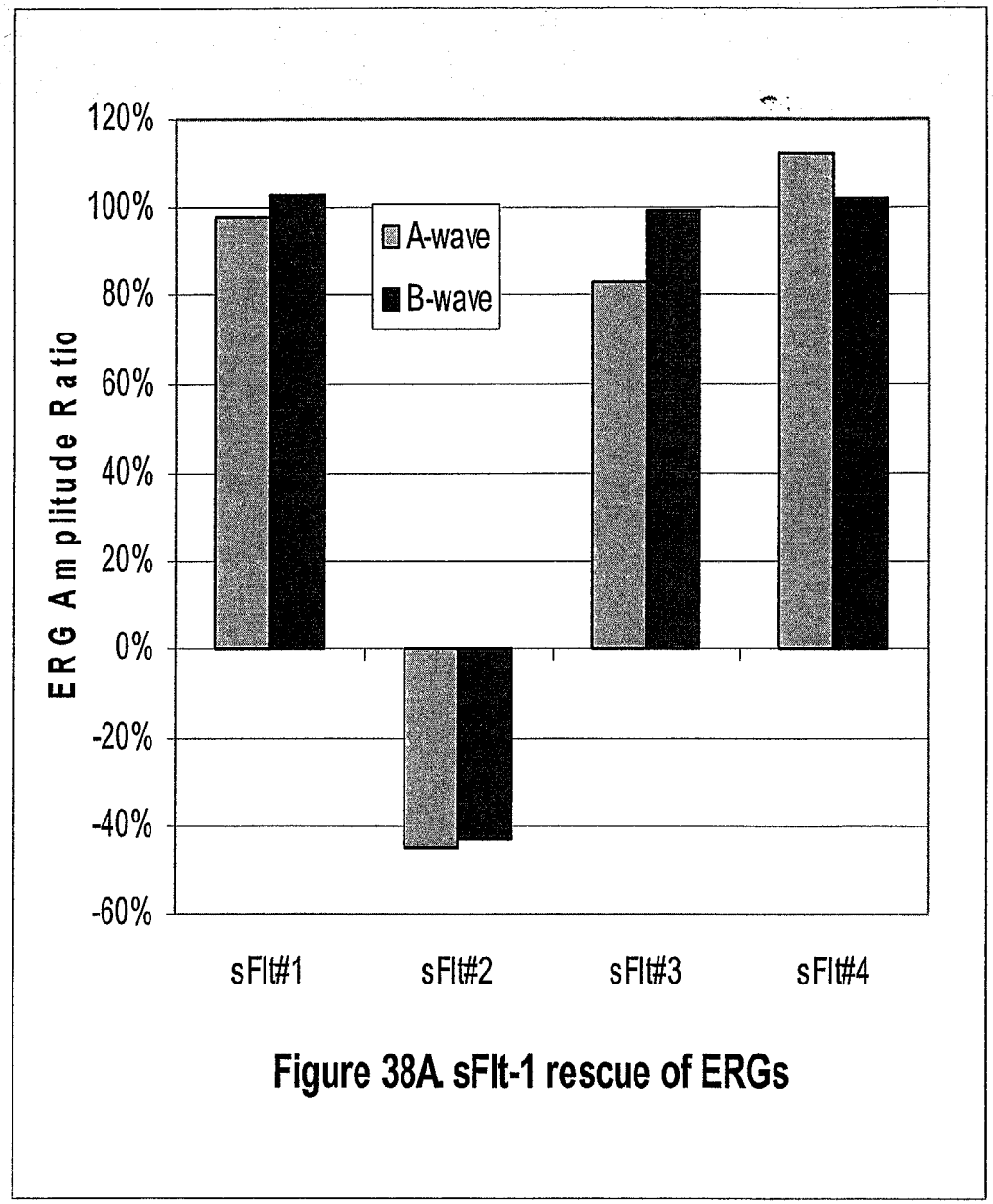

Figure 38A. sFlt-1 rescue of ERGs

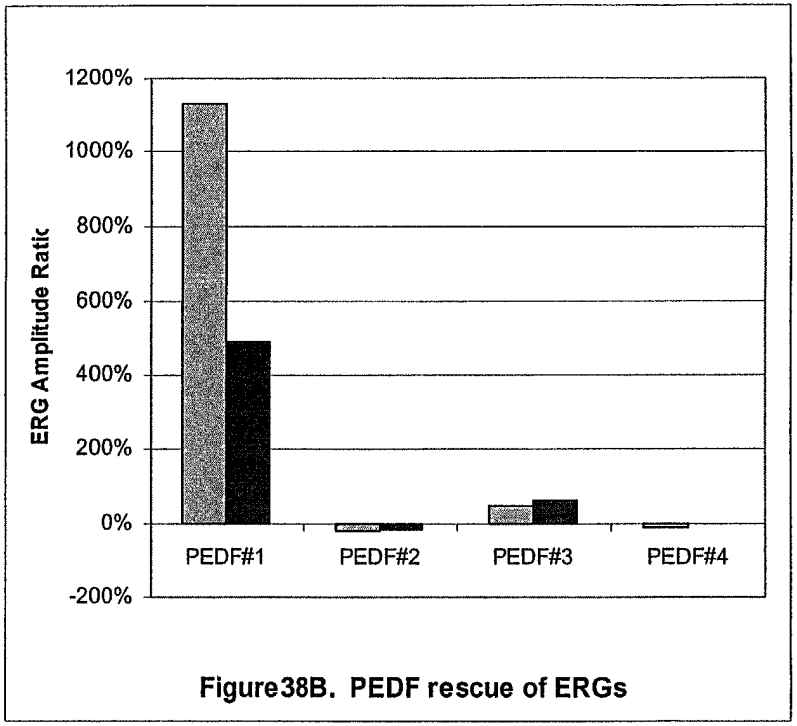

Figure38B. PEDF rescue of ERGs

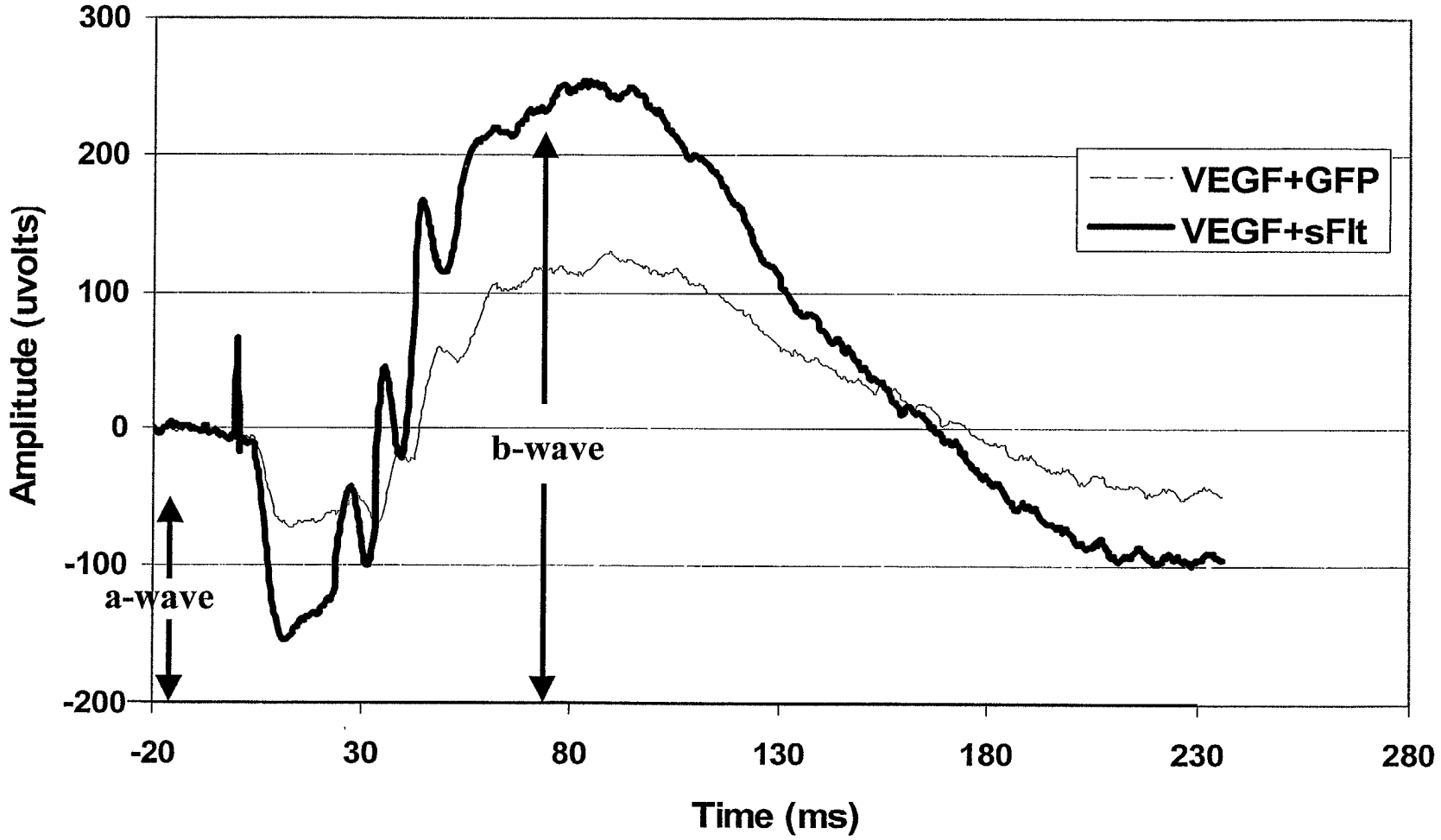

Figure 39. ERG of 070900 Rat#4 on 082300 (6 wk)